



Notebook software training for SMART Board™ users

Level 1
Learner workbook

SMART
Technologies

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Getting started

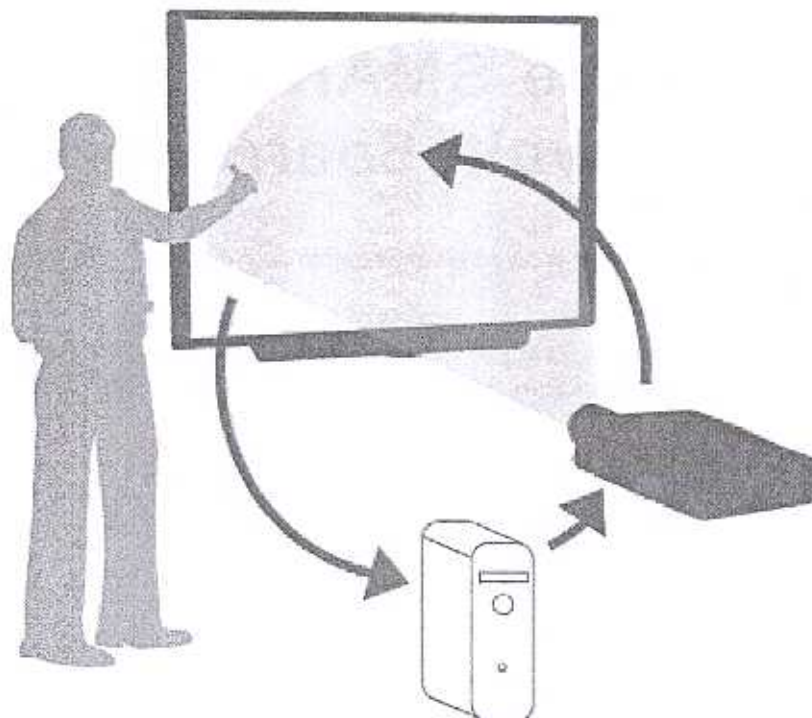
How does the SMART Board interactive whiteboard work?

The SMART Board™ interactive whiteboard is very easy to use. If you can use a computer, you can use an interactive whiteboard.

The touch-sensitive display connects to your computer and projector to show your computer image. You can control applications from the display with your finger, write notes in digital ink and save your work to share later.

How does the SMART Board interactive whiteboard work?

The SMART Board interactive whiteboard is touch sensitive and operates as part of a system that includes a computer and a projector.



- The computer sends an image of an application to the projector
- The projector casts the image onto the interactive whiteboard
- The interactive whiteboard acts as both the monitor and input device, allowing you to control an application by simply touching the interactive whiteboard

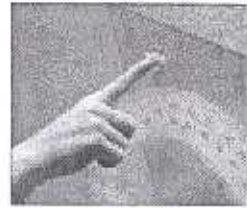
It may help you to think of your interactive whiteboard the same way you think of your mouse or keyboard – it is an input device that enables you to control applications on your computer.

Safety tips

- You and your students should never look directly at the light beam from the projector. You (and your students) should always take a step (or even two) sideways before turning to face the class.
- Tell your students not to touch the projector, as it can become extremely hot during normal operation
- Don't use a chair to increase a student's reach. If your students can't reach the top of the interactive whiteboard, lower it. You may need to remount a wall-mounted unit to a lower position. If your interactive whiteboard is mounted on a floor stand, lower it with the help of another adult.
- Tell students not to run in the vicinity of the floor stand, as they may trip over the floor stand's feet

Your finger is your mouse

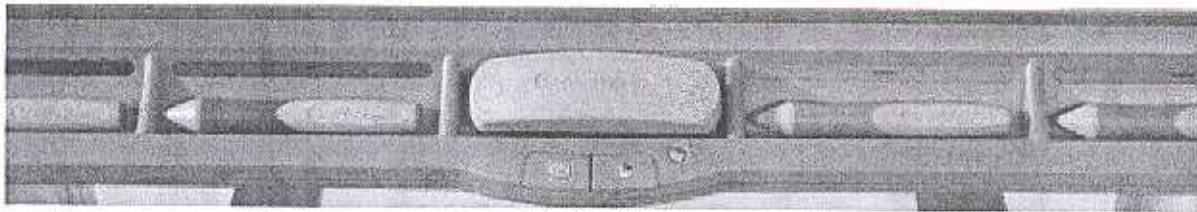
You can control applications on your computer from the interactive whiteboard. A press with your finger on a SMART Board interactive whiteboard is the same as a click with your mouse. You open an application the same way you do on your desktop computer, but instead of using your mouse to select and open files, just press or double-press the application icon with your finger.



Orienting the interactive whiteboard will ensure the cursor is aligned with your finger press. Orienting is discussed in detail on page six.

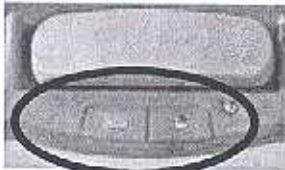
The SMART Pen Tray

The SMART Pen Tray consists of four color-coded slots for pen tools and one slot for the eraser. Each slot has an optical sensor to identify when the pen tools and eraser have been picked up. You can write with the pen tool or with your finger, as long as a pen slot is empty. The technology in the pen tray is smart enough to know which tool was removed from its slot most recently. If you remove the eraser from its slot while you are still holding a pen tool, the pen tray will assume you want to erase. The lights above the tool slots indicate which tool was removed last.



The pen-tray buttons

The pen tray has at least two pen-tray buttons. One button is used to launch the On-Screen Keyboard. The second button is used to make your next touch on the interactive whiteboard a right-click. Some interactive whiteboards have a third button. The third button is used to access the Help Center quickly.



Pen-tray buttons



Pen-tray buttons

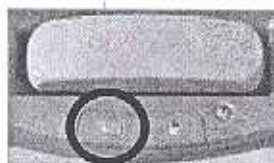
The pen tools

The SMART Board interactive whiteboard comes with four pen tools, which are black, red, green and blue, and one eraser. Although you do not need to use the pen tools to write on your interactive whiteboard, they do make writing more intuitive. Pick up a pen tool from the SMART Pen Tray and begin writing. To erase your digital ink, remove the eraser from the pen tray and move it in a smooth motion over your notes. The notes will disappear.

The On-Screen Keyboard

This on-screen, virtual keyboard eliminates the need for an attached physical keyboard, as you can use its many views to enter typed text. There are several available keyboard views, including the Classic, Write, Simple, Simple Capitals, Number Pad and Shortcut view.

To open the keyboard, press the **SMART Board** icon in the notification area and select **Keyboard**. Alternatively, press the **Keyboard** button on your SMART Board interactive whiteboard pen tray.



Type or edit text in any application without leaving the interactive whiteboard.

Press the **Keyboard** button on the pen tray to launch the On-Screen Keyboard.

Classic view

Press the virtual keys to type text, then press the **Send** button to place the text into the active dialog box or application. You can type into any application, whether it's Ink Aware or not.

To select an alternative view, press the drop-down arrow and select the desired view from the list.

You can use the keyboard to complete online forms or to enter text in any application.

Contact technical support

* Required fields

First name *

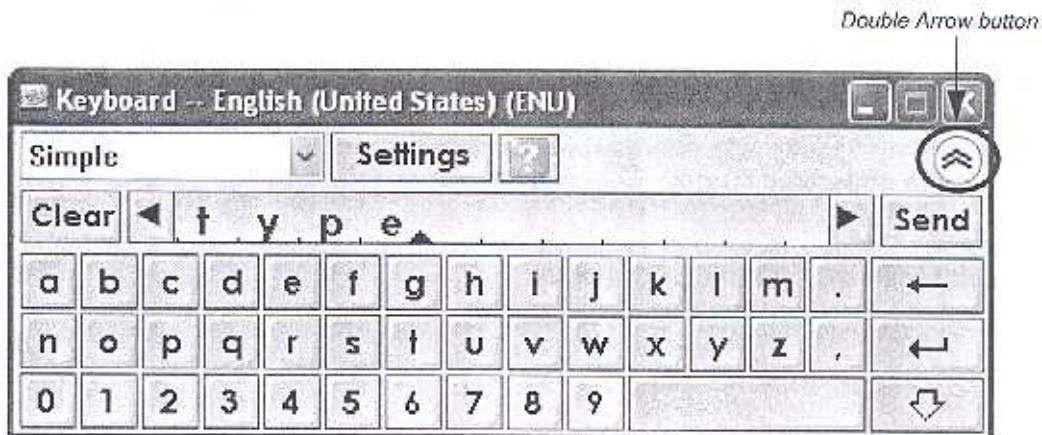
Last name *

Phone *

Please include country code and/or area code

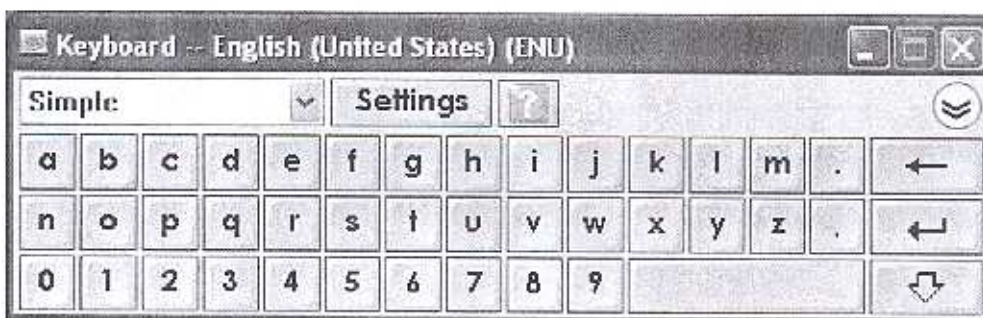
Double-arrow button

Press the double-arrow button to open the Preview Pane. When the Preview Pane is open, you can type an entire word or sentence before sending any information to an application. When you are finished typing, pressing the Send button will send your text to the active application.



Simple view

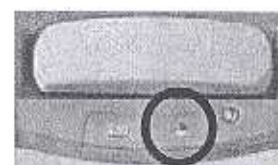
Teachers who are teaching students who are just learning the alphabet, or who are not yet familiar with a standard keyboard layout, will appreciate the two simple views available Simple and Simple Caps. In both of these views, the letters are arranged in alphabetical order, followed by digits 0 through 9.



The right mouse button

Press the **right mouse** button on the pen tray to have your next press on the screen recognized as a right-click.

A graphic in the bottom right of your screen will appear to remind you that your next press will be registered as a right-click.



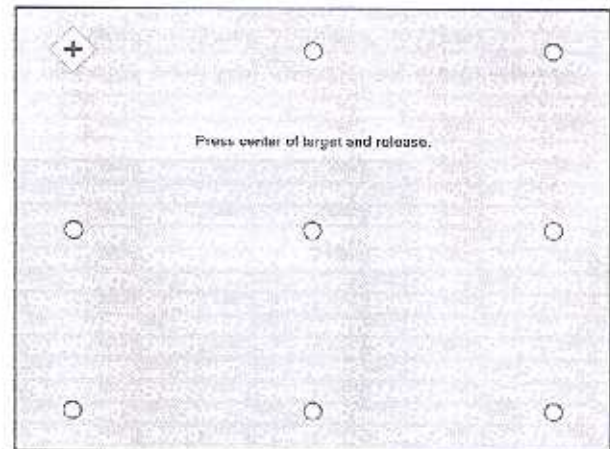
TIP: Instead of pressing the right mouse button, press and hold on the area of the screen where you would like to make a right-click. After a few seconds of pressing and holding the area, the right-click menu will appear.

Orienting your SMART Board interactive whiteboard

Orientation ensures your touch is registered accurately when you are using the interactive whiteboard.

If you are touching an icon and your cursor appears somewhere other than where you are pressing, try orienting the interactive whiteboard. After orientation, your cursor should appear wherever you are touching the interactive whiteboard.

To launch the Orient function, press and hold the **keyboard** button and the **right mouse** button simultaneously until the Orientation screen appears.



The Orientation screen

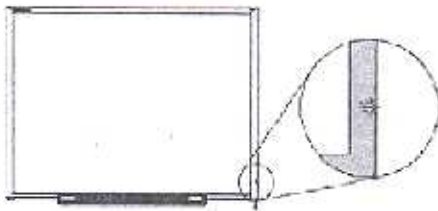
The Help button

If the pen tray features a help button, press it to launch the *Help and Support for Your SMART Board Interactive Whiteboard* dialog box. The dialog box provides one-touch access to information that will help you answer almost any question relating to your SMART product.



The Ready Light

Your SMART Board interactive whiteboard includes a Ready Light that indicates the status of your interactive whiteboard.




Color of Ready Light	Status
Not lit	<ul style="list-style-type: none"> The interactive whiteboard does not have power Check the USB cable connections
Solid green	<ul style="list-style-type: none"> The interactive whiteboard is successfully communicating with the SMART Board software on the computer
Flashing green	<ul style="list-style-type: none"> The SMART Board driver isn't installed. Or if it's installed, it isn't running. Verify that the driver is installed, and if it isn't, install it. If the Ready Light continues to flash green, you may want to contact your support representative for assistance
Solid red	<ul style="list-style-type: none"> The interactive whiteboard has power, but it is not communicating with the computer During the initial powering up or power reset, you will see the Ready Light turn red for a moment This <i>brief</i> red illumination is normal
Flashing amber	<ul style="list-style-type: none"> Occurs only when you are updating firmware using SMART's Firmware Flashing Wizard This is normal
Solid amber	<ul style="list-style-type: none"> Problem state Try resetting the interactive whiteboard by disconnecting and then reconnecting the USB cable at the interactive whiteboard end

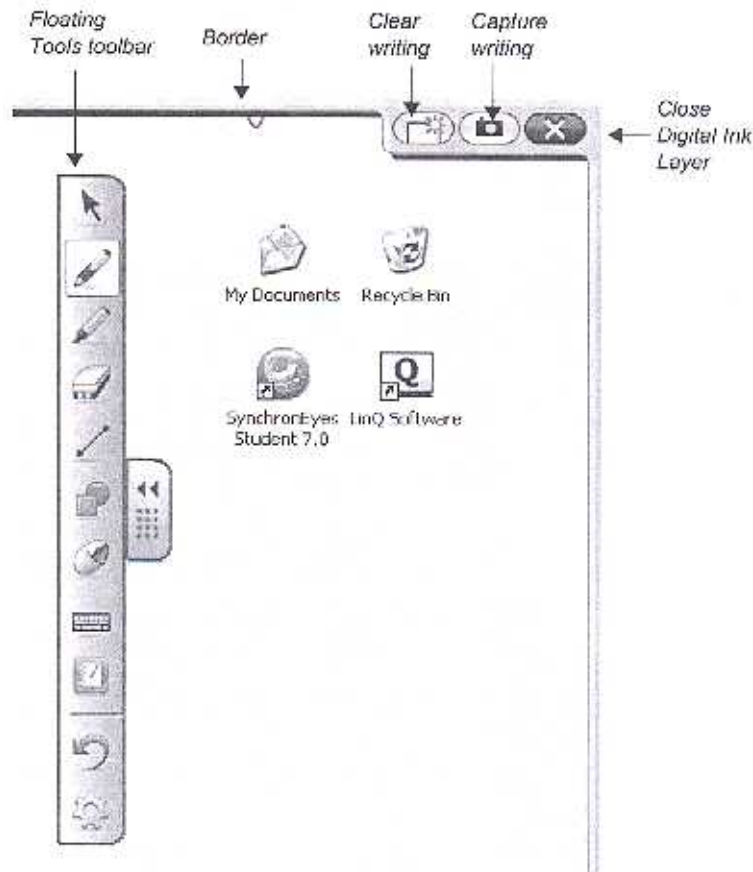
Writing notes

Make notes or drawings by removing a pen tool from the pen tray and writing on the surface of the interactive whiteboard.

The Digital Ink Layer

When you remove a pen tool from the pen tray, a border appears around your desktop, and the Floating Tools toolbar launches. If it does not launch immediately, press the SMART Board™ icon  located in the Windows Notification Area at the bottom right of your screen. Choose **Show Floating Tools...** from the menu.

The border indicates the Digital Ink Layer is in place, and you can write on the desktop just as you would write on a transparent sheet. The Digital Ink Layer and its visible border remain in place until all pen tools and the eraser have been returned to the pen tray and you touch the board.



Your first touch on the board, after returning all the pen tray tools, will bring up a menu with options for capturing your writing. If you wish to hide this menu, click **Ink Layer Options...** and select the **Close ink layer with pointer** checkbox.

To save an image of the screen on which you were writing into a new Notebook page, choose **Save Ink**. To clear the writing but keep the Digital Ink Layer in place, choose **Clear Ink**. To remove the Digital Ink Layer and clear the writing, choose **Close Ink Layer**.

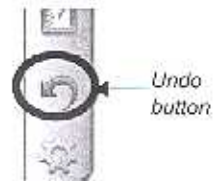
Save Ink
Always Save Ink
Ink Layer Options...
Clear Ink
Close Ink Layer

Restoring your notes and drawings


If you accidentally clear your writing, you can restore it by pressing the **Click here to restore ink** icon, located in the lower right of the screen. You can then use the Area Capture button to save your notes.

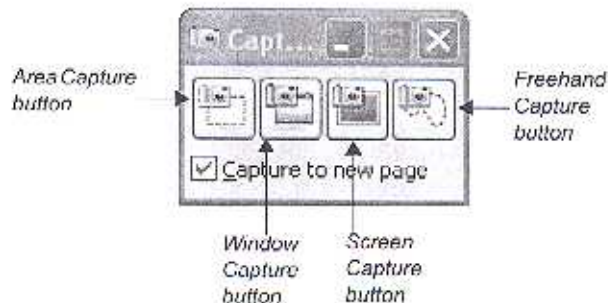


If you do not see the **Click here to restore ink** message or don't reach it before it disappears, pick up a pen tool from the pen tray to launch the Floating Tools toolbar or press the double arrows on the toolbar tab on the left of the screen. Press the **Undo** button to restore your notes and drawings.



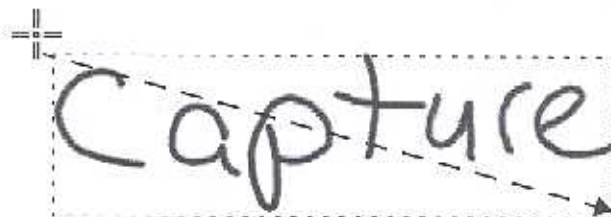
Capturing your notes and drawings

If you wish to capture a specific area of your screen, press the SMART Board icon  located in the Windows Notification Area at the bottom right of your screen. Choose **Other SMART Tools > Screen Capture Toolbar...** from the menu to launch the Screen Capture Toolbar.



To capture an area of your desktop, follow these steps:

- 1 Press the **Area Capture** button on the Floating Tools toolbar. The Area Capture tool will appear.
- 2 Press on any corner of the area you wish to capture and, continuing to press, drag the selection box until it surrounds the entire area
- 3 Release your press and your selection will be captured as a graphic into Notebook™ software.



If Notebook software is not already open, it will open automatically when you capture a portion of your screen. Save your Notebook file by selecting **File > Save**.

Review questions: Getting started

1 Name the three components required to operate a SMART Board interactive whiteboard.

2 How do you know when the interactive whiteboard is ready to be used?

3 Circle the pen-tray button that launches the On-Screen Keyboard.



4 Describe one way to begin the orientation process.

5 How do you right-click on the interactive whiteboard?

6 Circle the Screen Capture toolbar button you would use to capture an area of your desktop.



7 Name two ways to restore cleared writing.

Review answers: Getting started

- 1 Name the three components required to operate a SMART Board interactive whiteboard.

*Interactive whiteboard
Computer
Projector*

- 2 How do you know when the interactive whiteboard is ready to be used?

The Ready Light is a steady green.

- 3 Circle the pen-tray button that launches the On-Screen Keyboard.



- 4 Describe one way to begin the orientation process.

Press and hold the keyboard button and the right-mouse button on the pen tray simultaneously.

- 5 How do you right-click on the interactive whiteboard?

*Press the **right mouse** button on the pen tray to have your next press on the interactive whiteboard recognized as a right-click.*



- 6 Circle the Screen Capture toolbar button you would use to capture an area of your desktop.



- 7 Name two ways to restore cleared writing.

*Press the **Undo** button on the Floating Tools toolbar.*

*Press the **Click here to restore ink** icon in the lower right of the screen.*

Hands-on practice: Basic functionality

Your school or company has just moved one of your SMART Board interactive whiteboards into a new room because you were unable to access the Internet from the old location. You will be the first person to use it in the new environment and will be showing everyone how to use it and the Internet together.

You have learned through experience that whenever a piece of technology gets moved, it's a good idea to test it before you deliver a lesson or presentation. The computer, interactive whiteboard and projector appear to be working properly when you turn everything on. However, when you double-press the Internet browser icon on your desktop, your cursor appears a few inches away from your finger press.

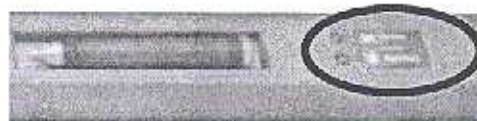
Orienting your SMART Board interactive whiteboard

You remember that when the projector or interactive whiteboard moves location, you should orient the board. This action will tell the computer where the image of the desktop is being displayed on the surface of the interactive whiteboard.

- 1 To orient the interactive whiteboard, press and hold the **keyboard** button and the **right mouse** button simultaneously until the Orientation screen appears

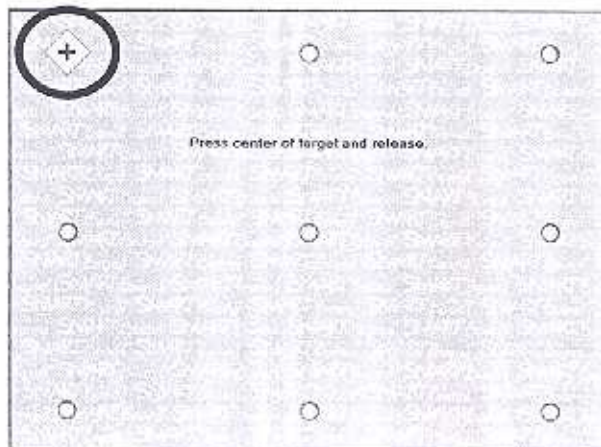


Pen-tray buttons



Pen-tray buttons

- 2 Begin the orientation process at the upper-left corner of the Orientation screen. Press your finger or pen tool firmly on the center of each cross in the order indicated by the white, diamond-shaped graphic.



The Orientation screen

NOTE: The point is registered when you remove your finger, not when you first touch the Orientation screen.

Testing basic functionality

It's a good idea to test the basic functionality of your interactive whiteboard to ensure all the applications you will be using to deliver your lesson or presentation are working properly.

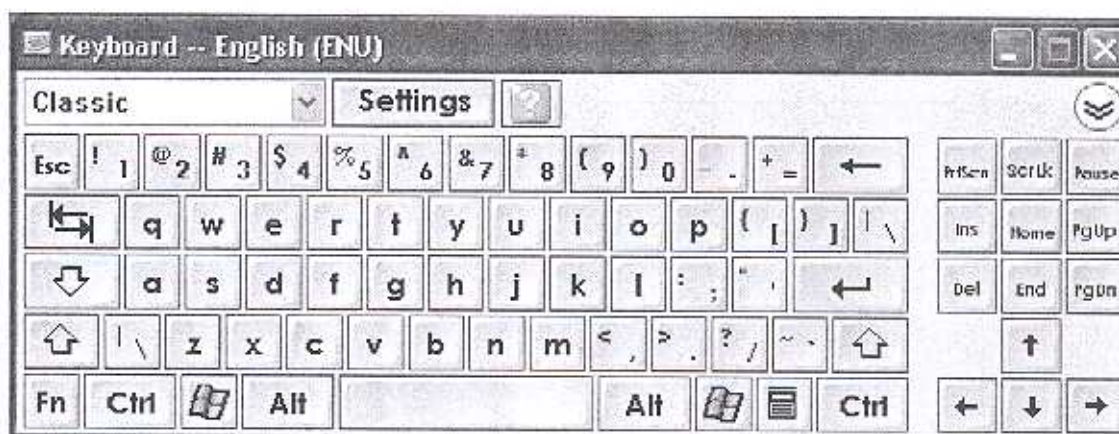
- 1 Using your finger, double-press on the Internet browser icon (e.g., Internet Explorer®) to launch the Internet
- 2 Press the **On-Screen Keyboard** button on the SMART Pen Tray



- 3 Press once inside your Internet browser's address bar to select the website address



- 4 Using the On-Screen Keyboard, type *www.google.com*



NOTE: The On-Screen Keyboard is a single point of contact; touch-typing or keystroke combinations are not possible.

- 5 Press the **Go** button beside your Internet browser's address bar



- 6 You know you will be writing notes directly over the Google™ search engine webpage during your lesson or presentation to highlight key points

Pick up a pen tool from the pen tray. You will notice the Digital Ink Layer appears, shown by a visible border around the desktop. The border indicates you can write on the desktop, and it remains in place until all pen tools and the eraser have been returned to the pen tray and you touch the board.



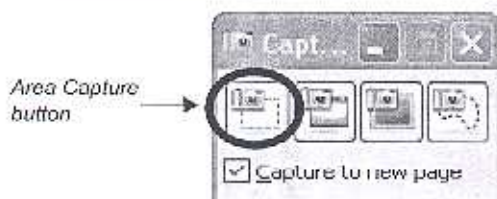
- 7 Using a pen tool, circle the browser's Back button
- 8 Return the pen tool to the pen tray, and touch the interactive whiteboard once to clear the circle around the browser's Back button. Press the **Click here to restore ink** icon at the bottom right of the screen to bring the circle back.



You have now confirmed that you can clear your notes by touching the interactive whiteboard, then restore your notes by pressing the **Click here to restore ink** icon.

To ensure you will be able to capture and save important information for a future lesson or presentation, launch the Screen Capture toolbar by pressing the SMART Board icon located in the Windows Notification Area at the bottom right of your screen. Choose **Other SMART Tools... > Screen Capture Toolbar...** from the menu.

- 9 Press the **Area Capture** button



- 10 Press the interactive whiteboard and, without releasing pressure, drag the selection box using your finger to outline the circle around your browser's Back button. Release your press to capture the image to Notebook software.



NOTE: Notebook software will open automatically, and your notes and background will be saved to a new Notebook page.

- 11 Touch the screen once to clear the circle from your browser's Back button
- 12 Select the unsaved Notebook file from the taskbar to view your captured image in Notebook software. Select **File > Save** to save your notes for future reference.



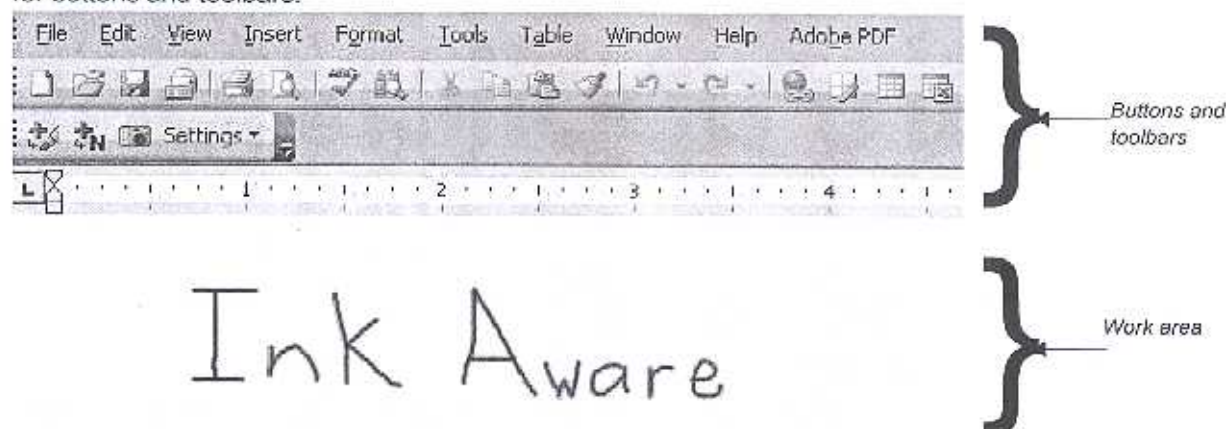
Working with Ink Aware applications

What is Ink Aware?

When software is Ink Aware, you can write and draw directly into the active file. For example, if you write a note or draw something while using Microsoft® Word software, you can save your Word file and your notes will be visible the next time you open it.

How do Ink Aware applications work?

Ink Aware applications recognize which area of the software is the active work area and which area is used for buttons and toolbars.



What applications are Ink Aware?

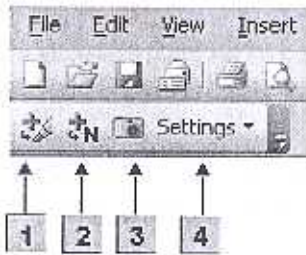
There are over a dozen Ink Aware applications, as outlined in the table below.

Microsoft Office	Microsoft Word, Microsoft Excel®, OpenOffice Calc, OpenOffice Writer
Graphic applications	CorelDRAW®, OpenOffice DRAW, Microsoft Imaging, Corel® Grafigo™ 2, Microsoft Paint®, ArcView, Autodesk® DWF Composer 2.0, Volo® View Express
Presentation applications	Microsoft PowerPoint®, Corel Presentations™, Microsoft Office Live Meeting, Microsoft NetMeeting® 2.0/2.1/3, OpenOffice Impress,
Other applications	AutoCAD®, AutoVue™ Professional, Microsoft Windows® Journal, Microsoft Office OneNote®, Microsoft Visio®, Adobe® Acrobat® Professional 6.0/7.0/8.0

This section will focus on the most commonly used applications – Microsoft Word, Excel and PowerPoint.

Microsoft Word software

When using Word software with your interactive whiteboard, you will notice four buttons. They may be integrated with the current Word toolbar or separated as a floating toolbar.



1 Press to insert your drawings or writing as an image directly into your document

2 Press to convert your writing as typed text directly into your document. Your text will appear at the cursor point and in the color the words were written in.

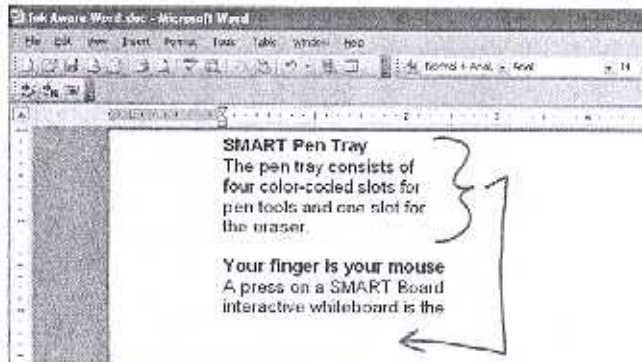
3 Press to save a screen capture in Notebook software

4 Press to select the option to automatically insert the drawing as an image

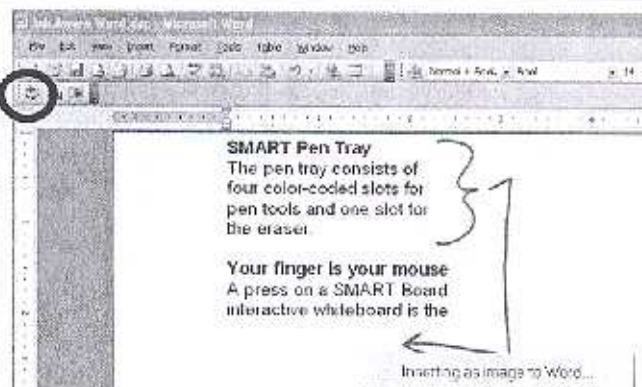
If you do not see this toolbar, select **View > Toolbars > SMART Aware Toolbar** in Word.

Example: Pressing the Insert as Image button

Before you press the button, the image is not part of the Microsoft Word file. It can only be seen on the interactive whiteboard.

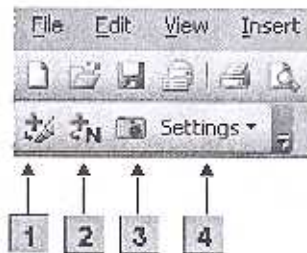


Press the button and the image becomes part of the Microsoft Word file. Now, you can send suggested changes to the appropriate person.



Microsoft Excel software

When using Excel software with your interactive whiteboard, you will notice four new buttons. They may be integrated with the current Excel software toolbar or separated as a floating toolbar.



- 1** Press to insert your drawings or writing as an image directly into your spreadsheet
- 2** Press to convert your writing as typed text directly into your document. Your text will appear at the cursor point and in the color the words were written in.
- 3** Press to save a screen capture in Notebook software
- 4** Press to select the option to automatically insert the drawing as an image

If you do not see either of these toolbars, select **View > Toolbars > SMART Aware Toolbar** in Excel software.

Example: Pressing the Insert as Text button

Before you press the button, the image is not part of the Excel software file. It can only be seen on the interactive whiteboard.

Press the button and the image becomes part of the Excel software file. Now, you can send suggested changes to the appropriate person.

Microsoft Excel - Ink Aware Excel.xls

	A	B	C	D
1	Budget requests		Expected costs	
2				
3	Technology upgrades		\$10,000	
4	Professional development			
5	Resource library			
6	Staff hires			
7				
8				
9				

Handwritten '1000' in cell B8.

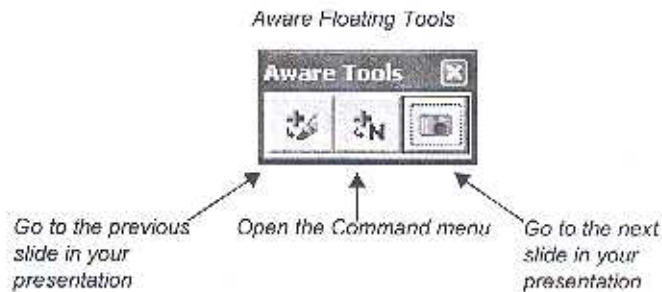
Microsoft Excel - Ink Aware Excel.xls (Read-Only)

	A	B	C	D
1	Budget requests		Expected costs	
2				
3	Technology upgrades		\$10,000	
4	Professional development		\$1,000	
5	Resource library			
6	Staff hires			
7				
8				
9				

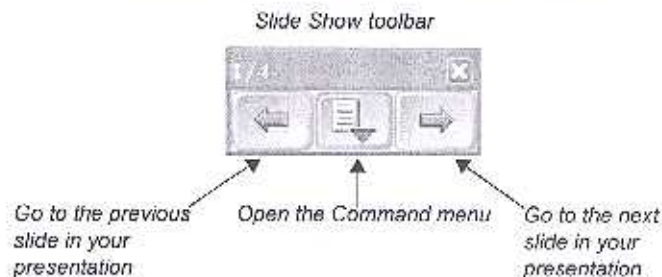
The 'Insert Drawing as Text' button is circled in the toolbar.

Microsoft PowerPoint software

When you work with PowerPoint software in Normal view on an interactive whiteboard, you can save your notes as images and save screen captures to Notebook software, just as you can when using Word or Excel software. Ink Aware features can be accessed through the Aware Floating Tools, which launches when you start creating notes or make drawings.



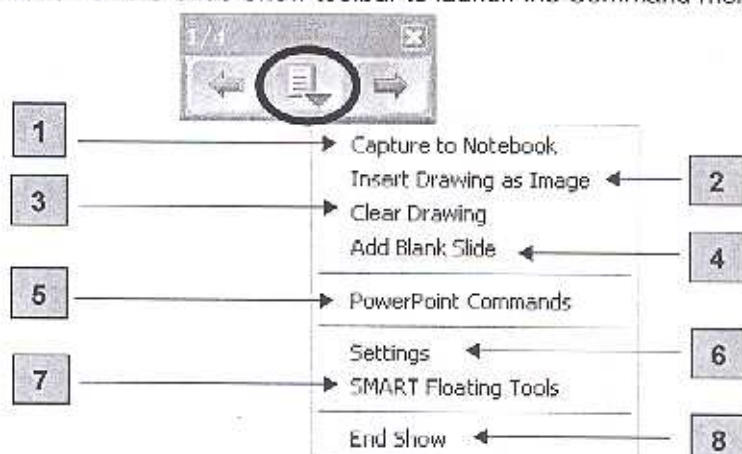
When you present with PowerPoint software on an interactive whiteboard, you can also save your notes as images and save screen captures to Notebook software. Ink Aware applications can be accessed through the Slide Show toolbar, which launches when you enter Slide Show view.



TIP: You can go to the next slide of a PowerPoint software presentation by pressing twice on the interactive whiteboard, making the second press to the right of the first. To go to the previous slide, make the second press to the left of the first.

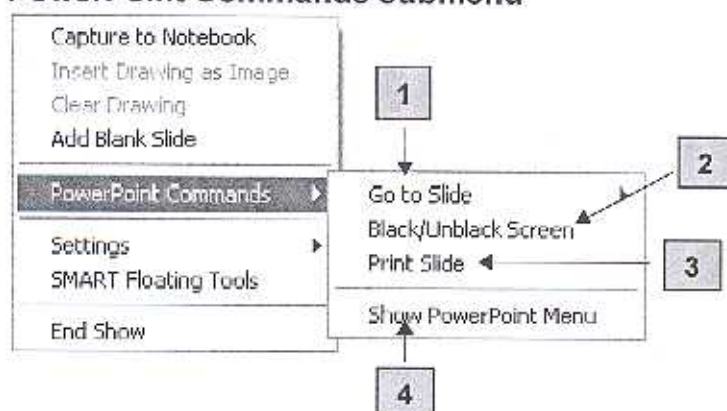
The Command menu

Press the center button on the Slide Show toolbar to launch the Command menu.



- | | | | |
|----------|--|----------|---|
| 1 | <i>Capture an image of the current slide to Notebook software</i> | 5 | <i>Launch the PowerPoint Commands submenu</i> |
| 2 | <i>Save your notes directly into your PowerPoint software presentation</i> | 6 | <i>Launch the Settings submenu</i> |
| 3 | <i>Delete your notes from the page</i> | 7 | <i>Launch the Floating Tools toolbar</i> |
| 4 | <i>Add an additional slide to your presentation</i> | 8 | <i>End the slide show</i> |

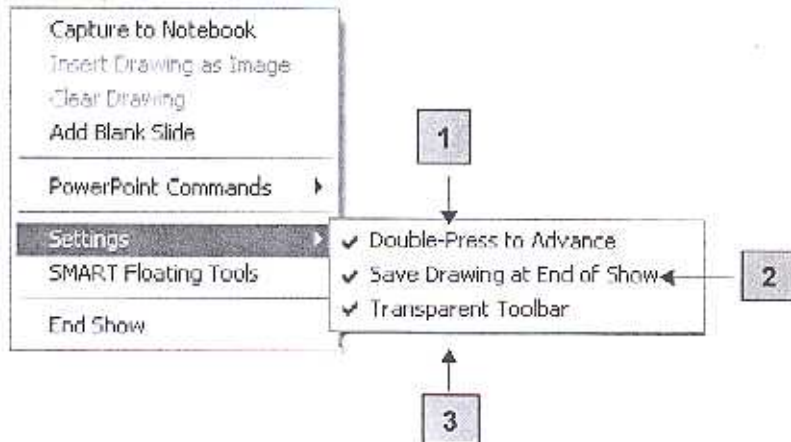
PowerPoint Commands submenu



- | | |
|----------|--|
| 1 | <i>Skip to any slide in your presentation</i> |
| 2 | <i>Make the screen black</i> |
| 3 | <i>Print the current slide on your default printer</i> |
| 4 | <i>Open the PowerPoint software menu</i> |

TIP: Use the **Black/Unblack Screen** command when you would like to draw the attention of your class or audience away from the screen and to the presenter. Press twice in rapid succession anywhere on the screen to resume your slide show exactly where you left off.

Settings submenu



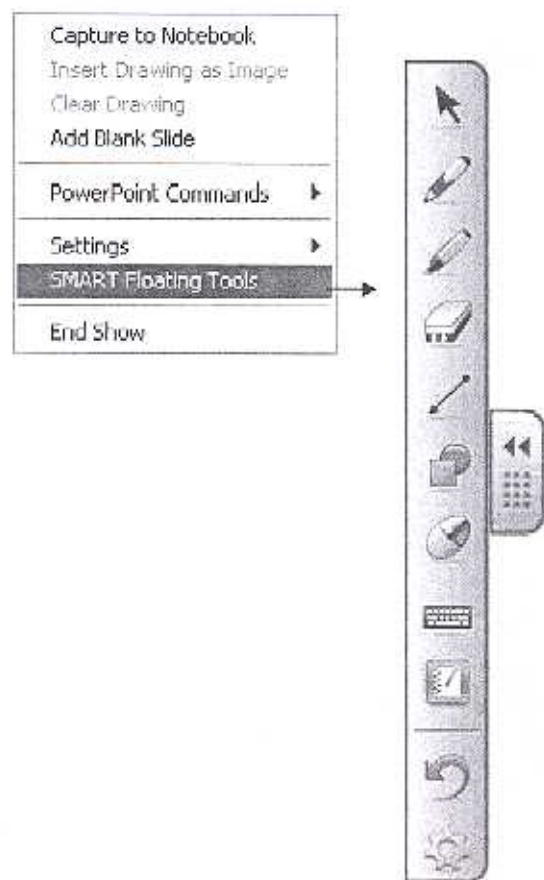
1 To advance slides with a single press, deselect **Double-Press to Advance**

2 Deselect **Save Drawing at End of Show** if you do not want to be prompted to save your notes

3 Deselect **Transparent Toolbar** if you would like the toolbar to be opaque

SMART Floating Tools

The Windows Operating System taskbar and notification area are hidden when you are presenting a PowerPoint slide show. You can still launch the Floating Tools toolbar by selecting **SMART Floating Tools** from the Command menu.



TIPS:

- 1 Use the Ink Aware toolbar buttons to convert your notes directly in Microsoft Word and Excel software
- 2 The Slide Show toolbar in PowerPoint software allows you to control a PowerPoint software presentation while you are at your SMART Board interactive whiteboard
- 3 You can launch the Floating Tools toolbar during a PowerPoint slide show by selecting **Slide Show Toolbar > Command Menu > SMART Floating Tools**

Review questions: Ink Aware

- 1 Describe the function of each of the buttons on the Ink Aware toolbar that appears in Microsoft Word software.
- 2 Describe how to insert digital ink as text into a selected cell of an Excel software spreadsheet.
- 3 Describe when in Slide Show view how to save writing on a PowerPoint slide into Notebook software.
- 4 Describe how you would save your notes and drawings to PowerPoint software files.

Review answers: Ink Aware

- 1 Describe the function of each of the buttons on the Ink Aware toolbar that appears in Microsoft Word software.

- *Insert as Image: Inserts notes as an image into the document or spreadsheet*
- *Insert as Text: Converts notes into typed text and inserts them into the document or spreadsheet*
- *Capture to Notebook: Captures the visible active work area into Notebook software*
- *Settings allows drawings to be automatically inserted into the document as an image*

- 2 Describe how to insert digital ink as text into a selected cell of an Excel software spreadsheet.

To save digital ink as text, press the Insert as Text button on the Ink Aware toolbar

- 3 Describe how to save writing on a PowerPoint slide into Notebook software.

*Press the center button on the three-button Slide Show toolbar and select **Capture to Notebook**. Both the slide and the notes will be captured as an image to Notebook software.*

- 4 Describe how you would save your notes and drawings to PowerPoint software files.

*Press the center button on the three-button Slide Show toolbar and select **Insert Drawing as Image**.*

If you do not save your notes and move forward to the next slide, you will be prompted to save your notes when you end the slide show. This option can be deselected in the Settings submenu.

Hands-on practice:

Ink Aware and Microsoft Word software in the classroom

Before you start

Before you begin your class, ensure that your computer is turned on and the SMART Board interactive whiteboard is connected and oriented.

This *hands-on practice* assumes you have a basic understanding of the Microsoft Windows operating system.

Preparation

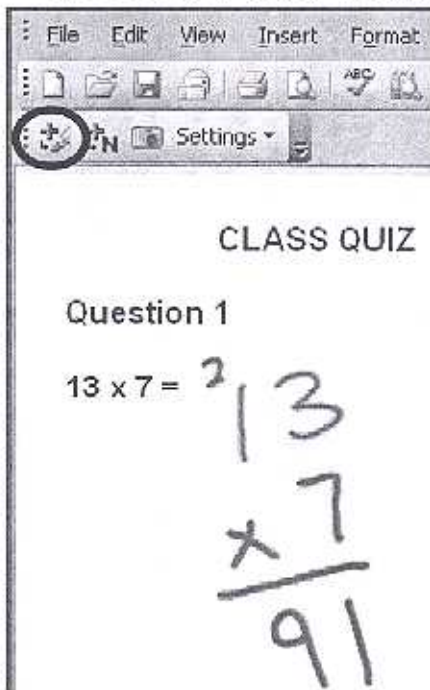
Create a short, two-question quiz. In a real-world example, you would open a quiz prepared in advance.

- 1 Open a blank document in Word
- 2 Type a mathematical equation using your computer's keyboard – for example, $13 \times 7 =$. Press the **Enter** key several times to give your students space to show their work.
- 3 Type *Complete the following sentence with either "who" or "whom."* Press the **Enter** key twice, then type *Now is the time for all good men to come to the aid of.*

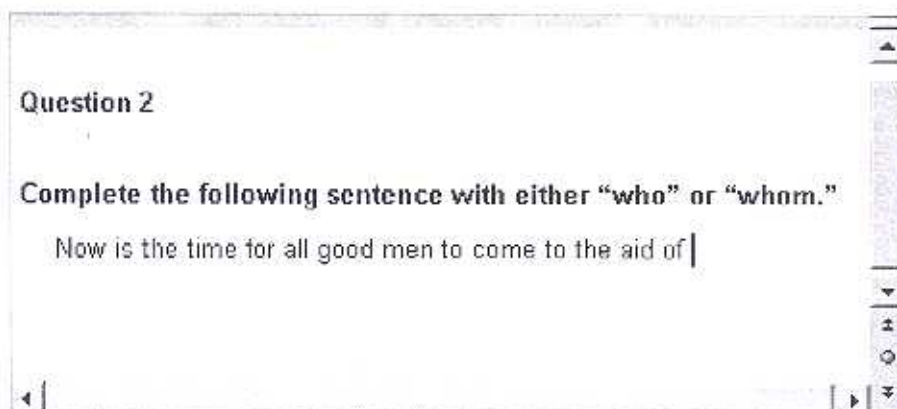
Using Ink Aware in the classroom

Your class has just completed the quiz you created in Word. Now you would like to review the answers as a group.

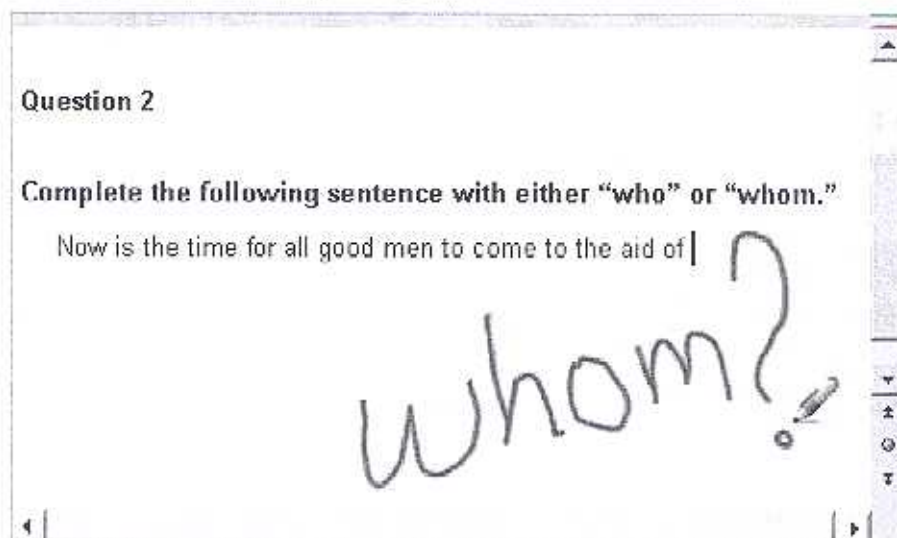
- 1 Show your class how to best display their work when answering the multiplication equation. Use a pen tool from the SMART Pen Tray to demonstrate how to arrive at the correct answer on the interactive whiteboard. Put the pen tool back in the pen tray, and press the **Insert as Image** button to add the answer to your Word file.



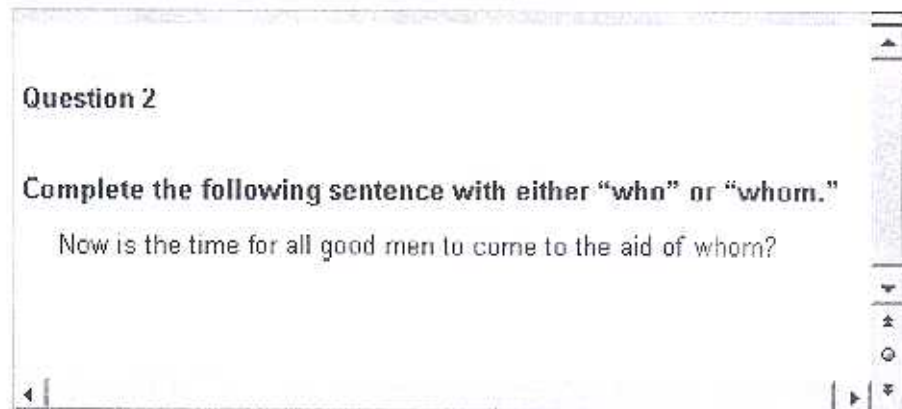
- 2 Move to the next quiz question. Discuss with your class when to use the word *who* versus *whom* in the sentence.
- 3 Touch the interactive whiteboard to place the cursor at the end of the sentence



- 4 Use a pen tool from the pen tray to write the correct answer on the interactive whiteboard



- 5 Press the **Insert as Text** button to convert the correct answer to text. The text will appear at the cursor point and in the same color as the digital ink it was written in.



- 6 Save your document in Word. Now you can e-mail or print copies and distribute the answers to your students.

Hands-on practice:

Ink Aware and Microsoft Excel software in the office

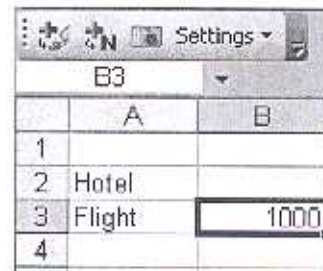
Before you start

Before you begin your class, ensure that your computer is turned on and the SMART Board interactive whiteboard is connected and oriented.

This *hands-on practice* assumes you have a basic understanding of the Microsoft Windows operating system.

Preparation

- 1 Open a blank spreadsheet in Excel software
- 2 Type *Hotel* in cell A2 on your computer's keyboard
- 3 Type *Flight* in cell A3
- 4 Type *1000* in cell B3

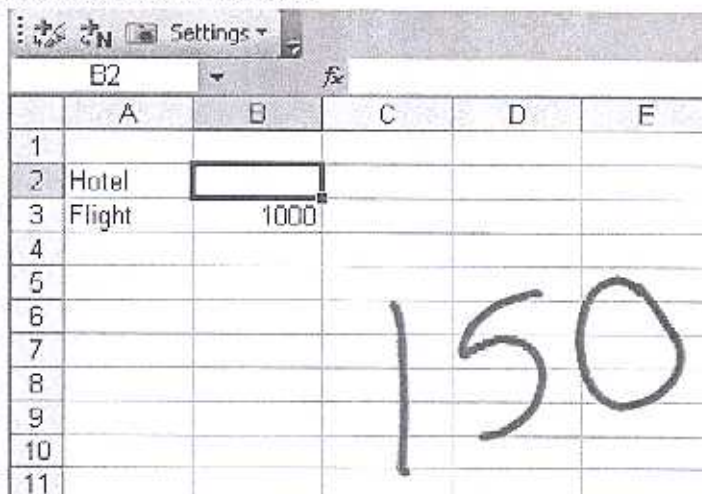


	A	B
1		
2	Hotel	
3	Flight	1000
4		

Using Ink Aware in the office

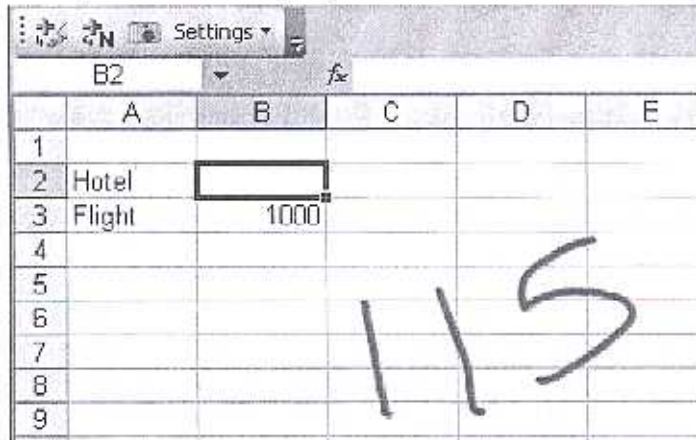
Assume you and your colleagues are attending a conference in the near future. As a group, you prepared a travel request outlining the anticipated expenses. This request will be presented to the accounting department for approval.

- 1 One group member states the hotel will cost \$150 per night. Press the cell in the spreadsheet to highlight where the cost will be placed. Pick up a pen tool from the SMART Pen Tray and write *150* on the interactive whiteboard.



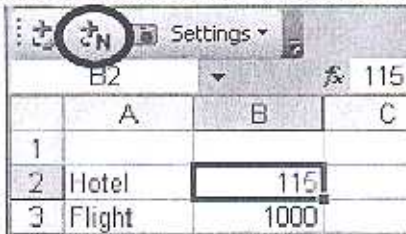
	A	B	C	D	E
1					
2	Hotel				
3	Flight	1000			
4					
5					
6					
7					
8					
9					
10					
11					

- 2 Another group member declares the corporate rate for the hotel is only \$115 per night. Put the pen tool back in the pen tray and press once on the interactive board to remove 150. Then, press the cell in the spreadsheet to highlight where the new cost will be placed. Now, write 115.



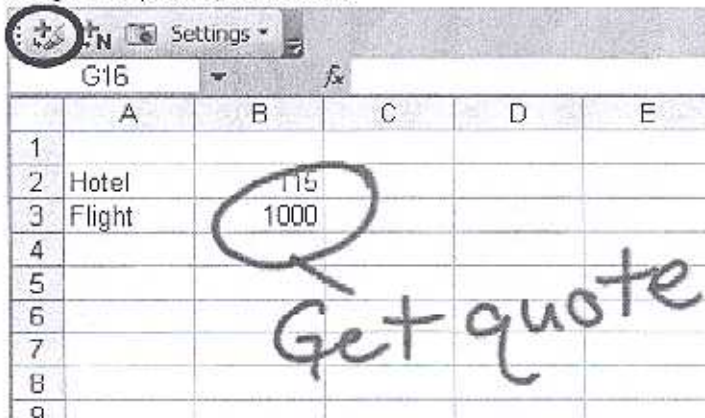
	A	B	C	D	E
1					
2	Hotel				
3	Flight	1000			
4					
5					
6					
7					
8					
9					

- 3 Press the **Insert as Text** button to add the hotel rate into the highlighted cell. Your text is inserted into the spreadsheet and will appear in the same color as the digital ink it was written in.



	A	B	C
1			
2	Hotel	115	
3	Flight	1000	

- 4 Finally, your team lead suggests that you get a minimum of three price quotes for the flight. Circle the flight cost in cell B3 and write *Get quote*. Press the **Insert as Image** button to insert your note as an image into your spreadsheet.



	A	B	C	D	E
1					
2	Hotel	115			
3	Flight	1000			
4					
5					
6					
7					
8					
9					

- 5 Save your spreadsheet as an Excel software file. Now you can update the travel request with your group's notes and e-mail it to the accounting department for approval.

Hands-on practice: Using Microsoft PowerPoint software on a SMART Board interactive whiteboard

Before you start

Before you begin, ensure that your computer is turned on and the SMART Board interactive whiteboard is connected and oriented.

This *hands-on practice* assumes you have a basic understanding of the Microsoft Windows operating system.

Preparation

Assume your supervisor has requested a brief presentation on the topic of productivity in the office. The preliminary work on your presentation requires you to incorporate feedback and suggestions from your colleagues. The final presentation will be presented to your supervisor.

A sample PowerPoint software file is available at www.smarttech.com/media/trainingcenter/samplepresentation.ppt for this lesson. If this file opens in your Web browser, save it to your desktop and then reopen it.

Alternatively, open an existing PowerPoint software presentation saved on your computer. The steps in this *hands-on practice* will still be applicable to you when using your own presentation with an interactive whiteboard.

Presenting on an interactive whiteboard

- 1 Select **View > Slide Show** to begin your presentation. The Slide Show toolbar automatically appears so you can navigate between slides.
- 2 Press the **Next Slide** button on the Slide Show toolbar to move forward one slide. Then press the **Previous Slide** button to move back one slide

TIP: You can go to the next slide of a PowerPoint software presentation by pressing twice on the interactive whiteboard, making the second press to the right of the first. To go to the previous slide, make the second press to the left of the first.



Company Strategies

Bringing full productivity to your organization



Press twice; a second press to the right will move to the next slide.



Company Strategies

Bringing full productivity to your organization






Press twice; a second press to the left will move to the previous slide.

- 3 Advance the slide show by pressing twice on the interactive whiteboard, remembering to make the second press to the right of the first
- 4 For emphasis, you want to draw your audience's attention to the items listed on your PowerPoint slide. Pick up a pen tool from the SMART Pen Tray and place a check mark beside each point as you discuss it with your colleagues.

The Hidden Productivity Problem

- What infrastructure do you have at workstations?
 1. Computers ✓
 2. Network connections ✓
 3. Software ✓
- With these tools, people stay productive

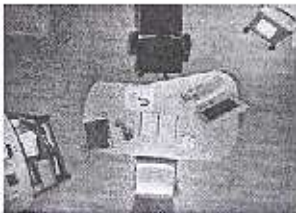






- 5 After the discussion, you decide to remove the check marks. Return the pen tool to the pen tray and touch the interactive whiteboard once with your finger to clear your notes.
- 6 Use the Slide Show toolbar, or press twice on the interactive whiteboard to advance to the next slide
- 7 Your colleagues take interest in the statistics you referenced on your PowerPoint slide and ask you to send them the source material. Record their request as a note to remind yourself to get back to them later. Pick up a pen tool from the pen tray and write *send source material*.

The Hidden Productivity Problem


- How long do people spend away from their desks per month?
- The average professional spends:
 - 40 hours in meetings and presentations each month^{*}
 - 7 hours in training each month^{**}



SEND SOURCE MATERIAL

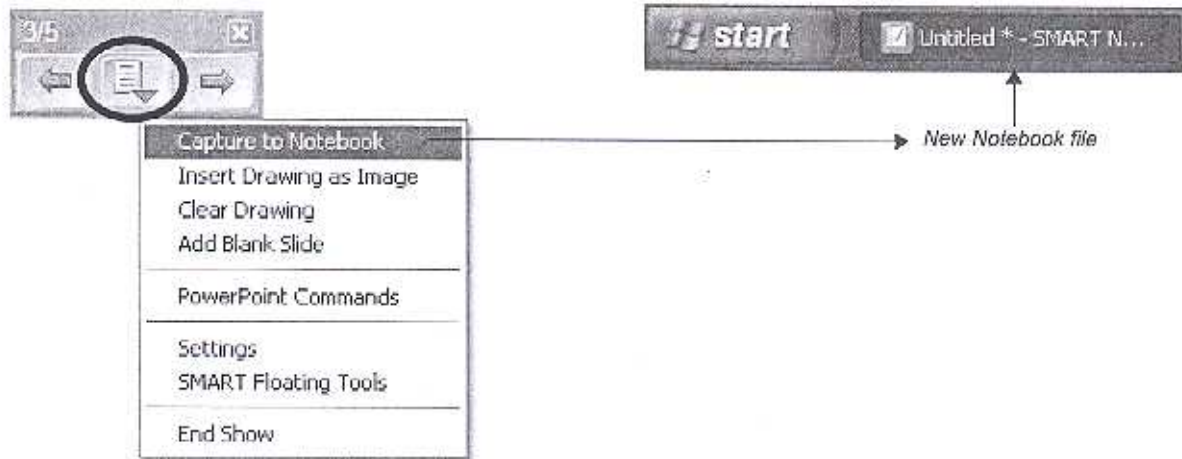


* We've Got to Start Meeting Like This. (Mosvick & Nelson) ** U.S. Dept. of Labor (www.bls.gov)

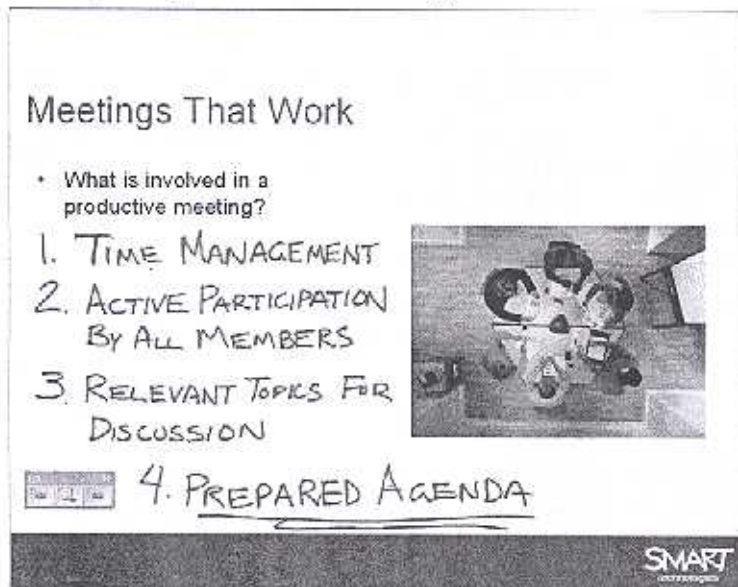


- 8 Return the pen tool to the pen tray

- 9 Since you want to follow up on your note, but you don't want to save it as a permanent part of your presentation, press the **Menu** button on the Slide Show toolbar and select **Capture to Notebook** from the drop-down menu. Notebook software will open automatically and an image of your PowerPoint slide with your written reminder will be inserted into a new Notebook file.

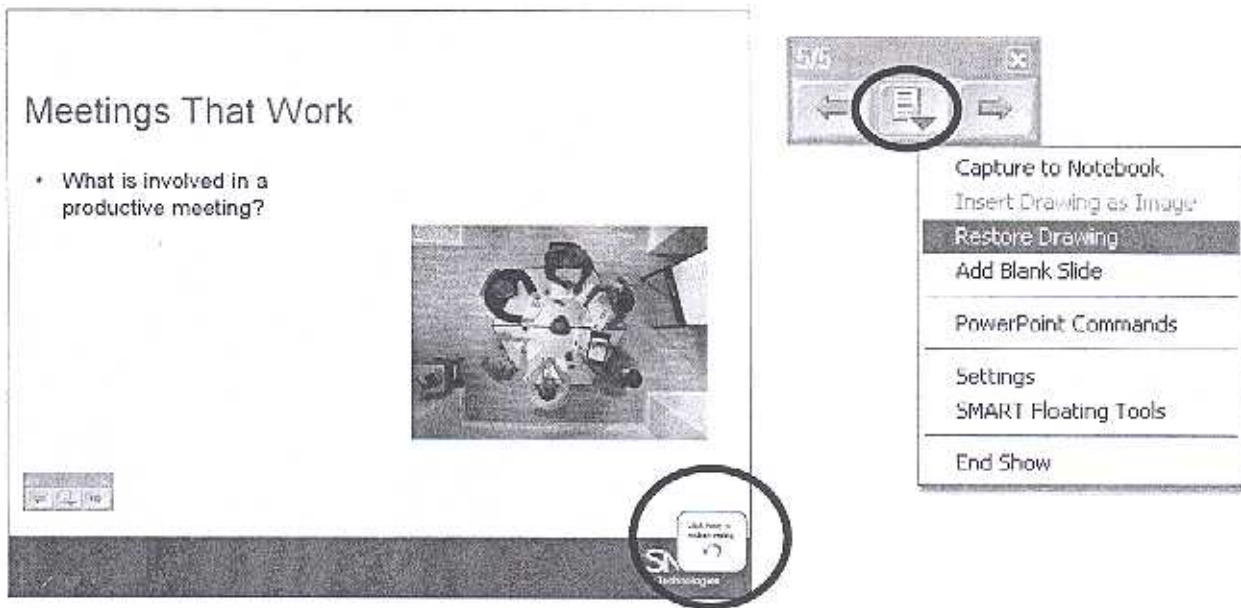


- 10 Now that your reminder has been captured to Notebook software, press once on the interactive whiteboard to erase your note from your PowerPoint software presentation. Advance to the next slide.
- 11 The next slide in your presentation requires feedback from your colleagues. Pick up a pen tool from the pen tray, and record their suggestions.



- 12 Oops! After putting the pen tool back in the pen tray, you accidentally bumped the interactive whiteboard and your notes disappeared. What if you had wanted to save that information?

Before you pick up the pen tool again, press the **Click here to restore writing** icon that appears in the bottom-right corner of the screen. Your notes will reappear on the slide.



TIP: If the **Click here to restore writing** icon disappears from the interactive whiteboard, don't worry. Click the **Menu** button on the Slide Show toolbar and select **Restore Drawing**.

- 13 You are ready to end your presentation. Press the **Menu** button on the Slide Show toolbar and select **End Show** from the drop-down menu. Select **Yes** in the SMART Aware message box to add your notes to your PowerPoint software presentation.
- 14 Select **File > Save** to save your notes into your original presentation, or select **File > Save As** to save to a new PowerPoint software file. Close your presentation.
- 15 Now select the unsaved Notebook file created earlier in the lesson. Select **File > Save** to save your notes for future reference.



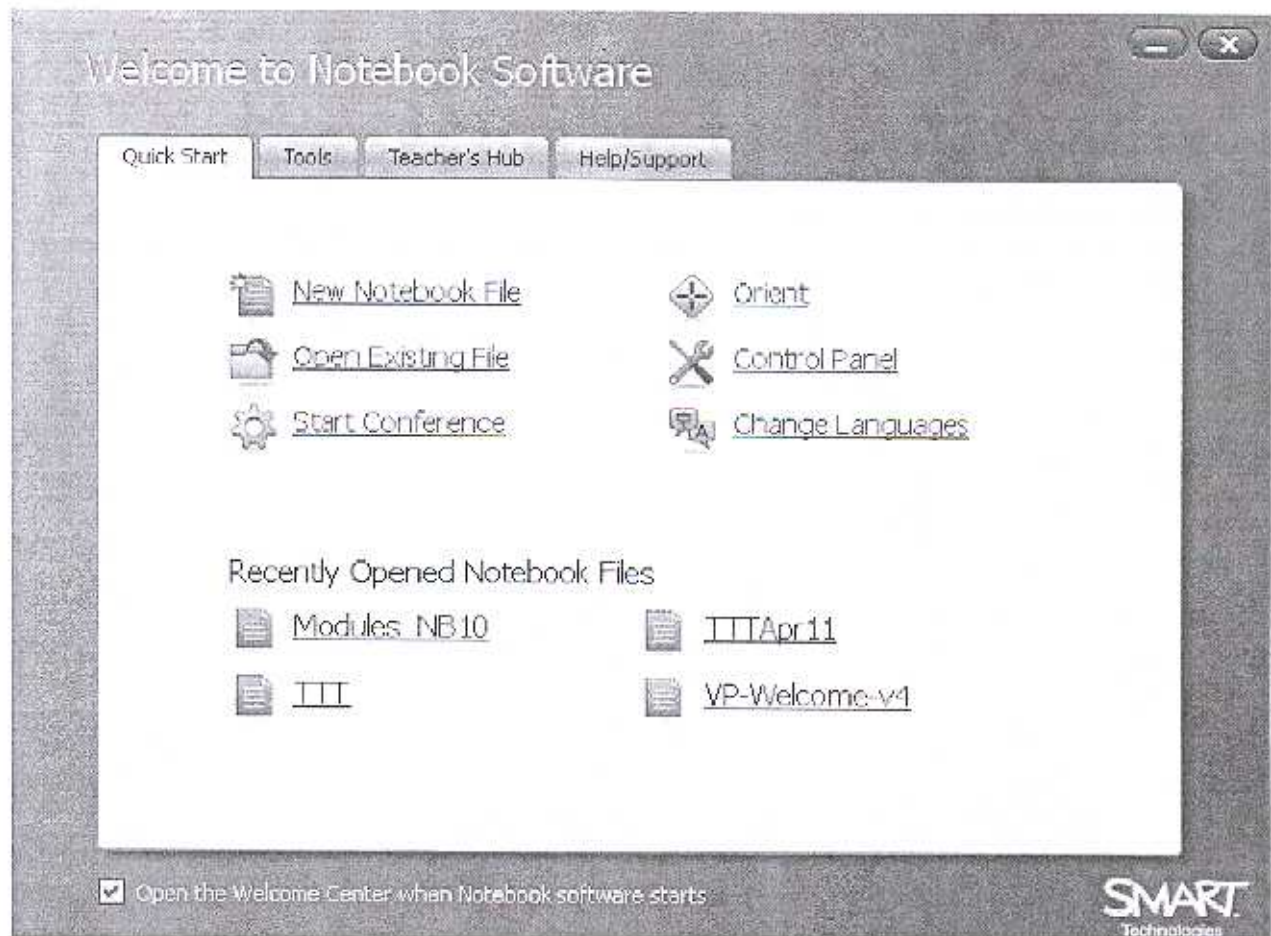
Basics for Notebook software

What is Notebook software?

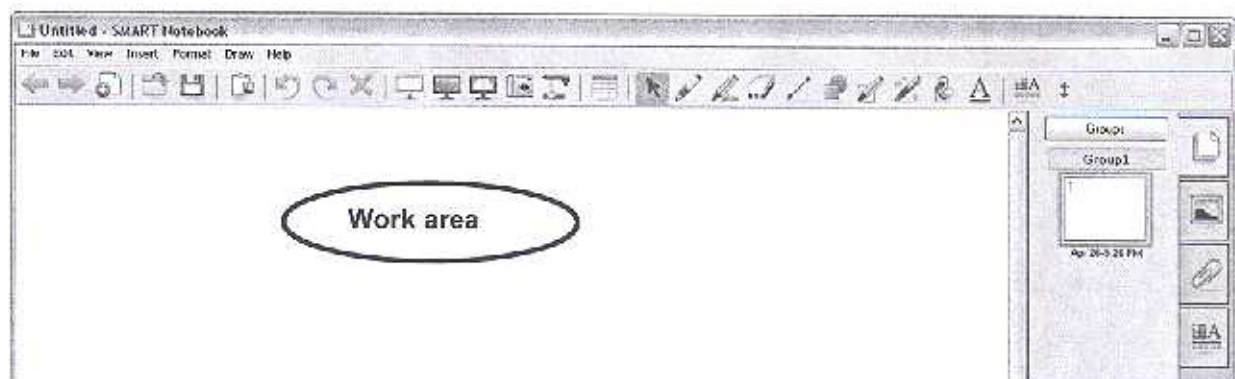
Notebook software is SMART's interactive whiteboarding software. Use it in the classroom to create engaging and interactive lesson activities.

Using Notebook software for the first time

To launch Notebook software, double-click the SMART Board interactive whiteboard icon on the desktop. Or, click the **Start** button in the bottom left of your screen, and select **Programs > SMART Board Software > SMART Notebook**. The *Welcome to Notebook Software* screen will appear. If you do not want to see this screen next time, uncheck the *Show this when Notebook opens* check box.

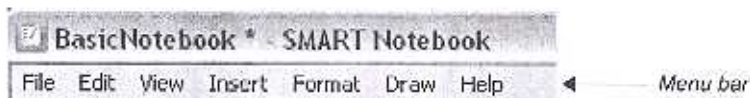


When you click *New Notebook File*, a new file will open. Each new Notebook file contains a **Work area** that can be filled with objects. Handwritten notes, typed text, graphics, clip art and Flash® files are all examples of what you can add to a Notebook file. A key feature of Notebook software is the ability to add as many pages as you need to capture or display information.



Notebook software menu bar

The Notebook software menu bar provides access to many of the same tools and features found on the Notebook software toolbar, and some additional tools. Click on the menu item you wish to access.



Menu item	Functions
<u>F</u> ile	<ul style="list-style-type: none"> • Open new or existing files • Save a file • Save As – save a file for the very first time, save a file with a new name or save the file in a new location • Save the current page as a Gallery item • Import a variety of file formats • Export content to a variety of file formats • Print files or modify print settings • Send a file to a mail recipient as a Notebook file or a PDF • Timed Saves – select how often you want your file to be automatically saved (it is a good idea to set this to 15 minutes) • See a list of recently opened files
<u>E</u> dit	<ul style="list-style-type: none"> • Undo or redo previous actions • Clone, cut, copy, paste or delete selected objects or all objects on the page • Edit a text object • Select all unlocked or all locked objects on the page • Clear or delete the current page
<u>V</u> iew	<ul style="list-style-type: none"> • Change the current side tab view (Page Sorter, Gallery, Attachments) • Move to the next or previous page • Launch the Screen Capture or Screen Shade tool • Hide the side scrollbar • Customize the toolbar • Change the view to full screen • Zoom to magnify or reduce your view of page contents • Show All Links • Select the language Notebook software displays
<u>I</u> nsert	<ul style="list-style-type: none"> • Add a blank page, a picture, a graphics file, a Flash file, a Flash video file or a Gallery item. Add a link, a sound file or a table.

Menu item	Functions
<u>F</u> ormat	<ul style="list-style-type: none"> • Change font styles (bold, underline, italic) • Set object properties (color, line width, line style, fill, transparency) • Lock object properties and position • Infinitely clone a selected object • Change the background color of a page • Create or set page themes • Set alignment guide defaults
<u>D</u> raw	<ul style="list-style-type: none"> • Group, ungroup, flip or order objects • Select objects • Access Pen, Creative Pen and Eraser tools • Create shapes and lines text • Select the fill tool • Select a default font face, size and color
<u>H</u> elp	<ul style="list-style-type: none"> • Access the Notebook software Help file • Check for software updates • Participate in the Customer Experience Program • Access information about Notebook software

TIP: You can also access the Notebook software menu bar drop-down menus by holding down the Alt key or the Ctrl key, and tapping the underlined letter in the menu item (e.g., Edit is *Alt + e* and Save is *Ctrl + s*).

Notebook software toolbar

The Notebook software toolbar provides access to a number of tools to help you work with your Notebook file. By default, the toolbar appears at the top of the Notebook page. .



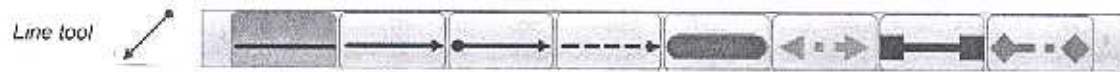
Button	Use this tool to	Button	Use this tool to
	Display the previous Notebook page		Insert a table
	Display the next Notebook page		Select any object on the page with your finger or mouse
	Insert a blank Notebook page directly after the active Notebook page		Write or draw on the Notebook page with the pen tool
	Open an existing Notebook file		Write or draw on the Notebook page with the Creative Pen tool
	Save your Notebook file		Erase digital ink on the Notebook page
	Paste copied object(s) into a Notebook file		Draw a line
	Undo the last action you performed		Create a shape
	Redo the action you performed		Draw a shape on the Notebook page with the Shape Pen
	Delete any selected object		Use the Magic Pen to zoom and spotlight, or write in disappearing ink
	Show/hide the Screen Shade on the current Notebook page		Use the current fill effect to fill an object
	Open Full Screen view		Create a text-entry box for typing
	Launch Dual Page Display		Modify properties of a selected object
	Launch the Screen Capture toolbar		Move the toolbar to the bottom of the Notebook page
	Activate the SMART Document Camera		

By default, the toolbar appears at the top of the Notebook page. If you prefer, it may be more convenient to move the toolbar to the bottom of the page. To do this, click the double-ended, vertical arrow on the far right of the toolbar.



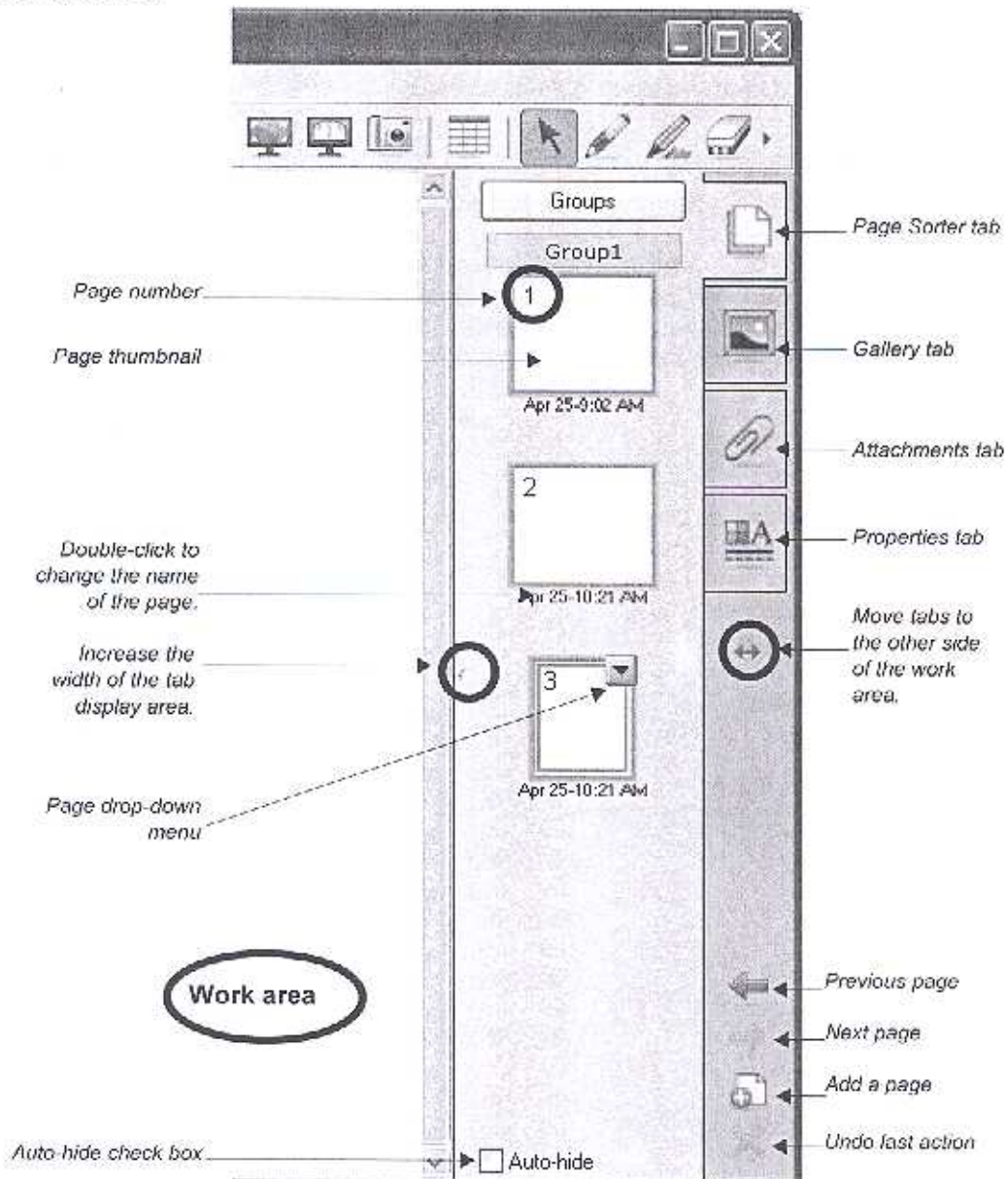
More toolbar choices

When you click on some toolbar buttons, you are offered more options for creating Notebook objects.



Side tabs

There are four tabs on the side of the Notebook interface, which are shown below on the right-hand side of the work area. Click the double-ended horizontal arrow to move the tabs from one side of the work area to the other. You can hide the side tabs from view when you have finished working with them by checking the **Auto-hide** check box.



Click the **Page Sorter** tab to see a thumbnail image of each page in the Notebook file, navigate to a different page or reorder the pages.

Click the **Gallery** tab to access collections of SMART's custom pages, clip art, Flash animations and video you can add to the Notebook file.

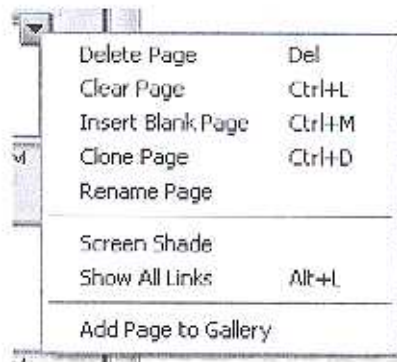
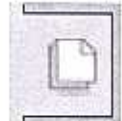
Click the **Attachments** tab to add hyperlinks to or attachments from other software applications to the file.

Click the **Properties** tab to format shapes, objects and text.

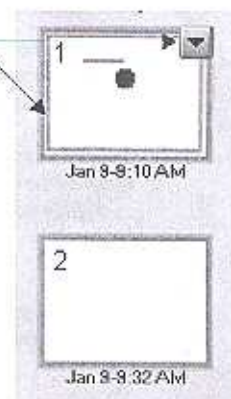
Page Sorter tab

Click the **Page Sorter** tab to see thumbnails of all the pages in the Notebook file.

The active page is indicated by a second border around the thumbnail image and a drop-down menu. Clicking another page in the Page Sorter tab area makes that page active, and its contents are displayed in the work area. To change the page order, drag and drop the thumbnail of the page into its new location.



The second border indicates the active page



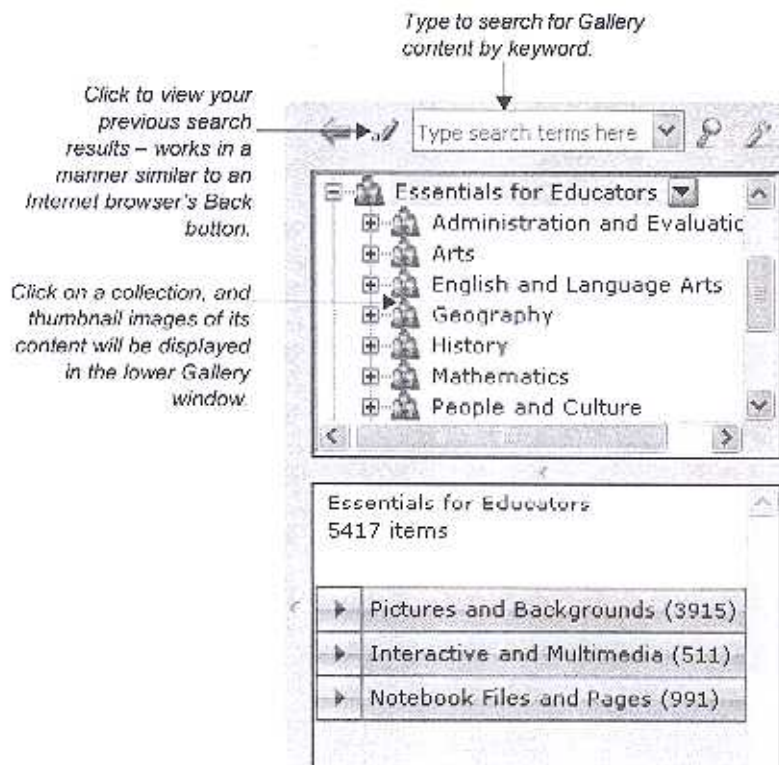
Page Sorter drop-down menu

Clicking the drop-down menu on the active page presents you with eight options.

Menu item	Function
Delete Page	Deletes the current page
Clear Page	Clears all the objects on the current page
Insert Blank Page	Adds a blank page immediately after the active page
Clone Page	Creates an identical page, including all objects on the page, and inserts it immediately after the active page
Rename Page	Allows you to rename the page
Screen Shade	Covers the active page with the Screen Shade
Show All Links	Display all existing links on page
Add Page to Gallery	Adds the current page to the Gallery

Gallery tab

The Gallery in Notebook software helps you quickly develop and deliver lessons in rich graphic detail. Thousands of images, pages, videos, Flash files and entire Notebook files are organized into searchable collections that will allow you to create attractive, reusable lessons.

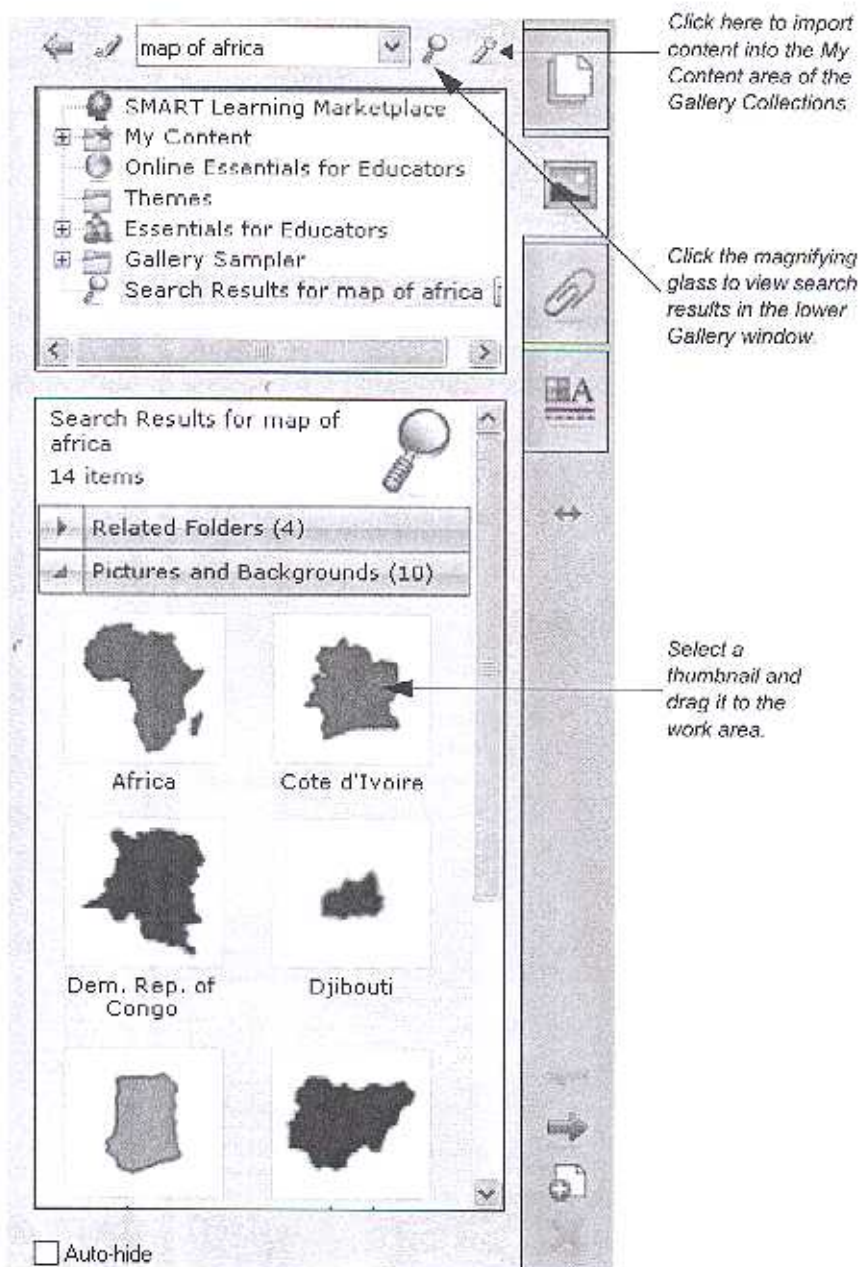


Finding Gallery content

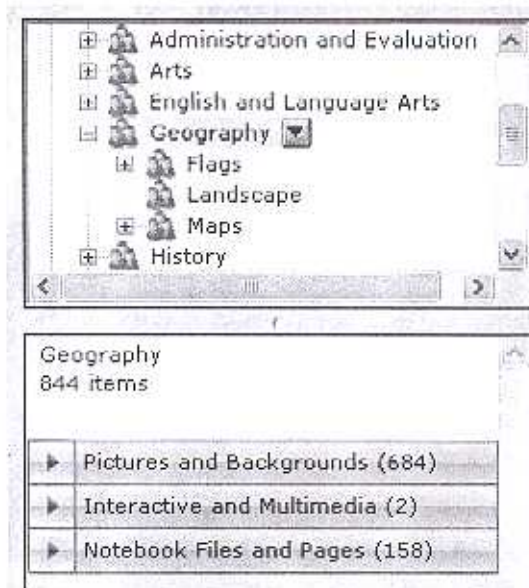
There are two ways to find content in the Gallery. The search field at the top of the Gallery tab allows you to search by keyword – much like using an Internet search engine. You can then browse the Gallery collections by selecting a folder.

To search for objects in the Gallery using the search field, follow these steps:

- 1 Click inside the search field
- 2 Type a keyword related to the type of object(s) you are looking for
- 3 Click the search button to display your results



Alternatively, you could browse through individual collections if you were looking for all the objects related to a general topic, such as *Geography*.



Tip: Search a singular versus a plural term for better search results.

Objects in the Gallery

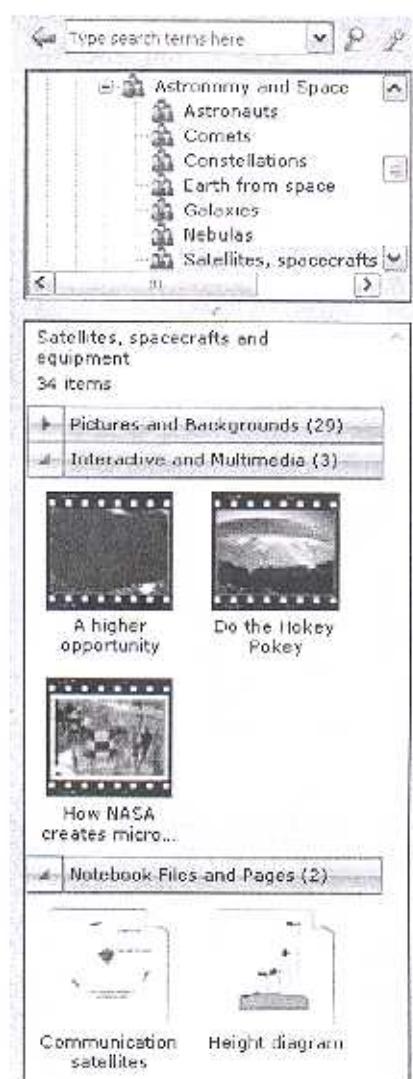
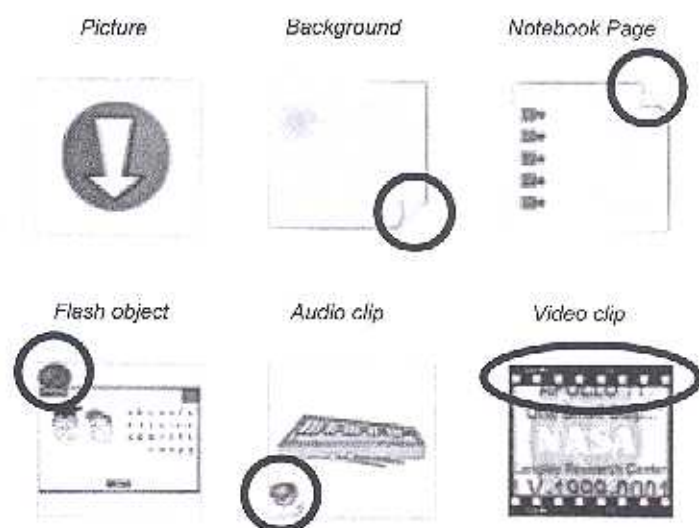
Objects are organized in the bottom area of the Gallery by Pictures and Backgrounds, Interactive and Multimedia, Notebook Files and Pages, and Related Folders.

Double-clicking a folder thumbnail in the **Related Folders** area will show all the objects contained within that folder.

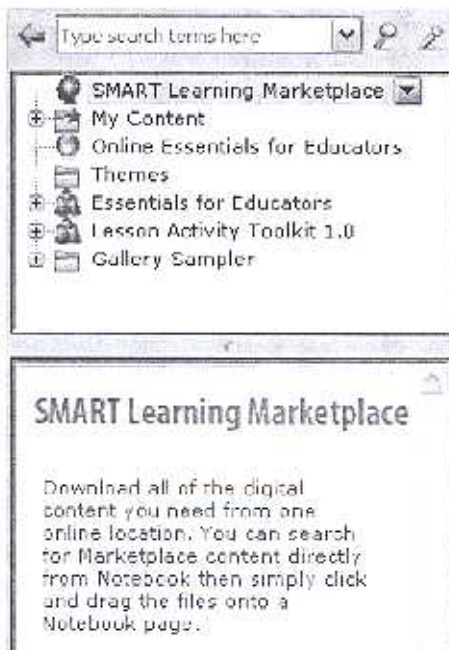
Pictures and Backgrounds contains backgrounds and objects, e.g., graphics, photographs or text. You can drag an object to the work area to use as part of a lesson or to modify its properties. Drag a background to your Notebook page and the color and design of the page background will change to match the properties of the background Gallery item. Backgrounds are recognizable by the folded edge in the bottom-right corner and will always be inserted behind all the objects already on the Notebook page.

Interactive and Multimedia contains Flash objects, video files and objects with sound attached. Objects from this folder are used to add rich media content to a lesson or presentation.

Additional files and pages can be found in the **Notebook Files and Pages** sections of the Gallery. Notebook page thumbnails are identified by the folded edge in the top-right corner. Notebook files are recognizable by the coil binding on the left of their thumbnail images. Dragging a page or Notebook file to the work area will insert a new Notebook page or series of pages directly after the active page.



Online resources



Click the **SMART Learning Marketplace** or **Online Essentials for Educators** to access additional Gallery content and open education resources from the Internet.

These online resources require an active Internet connection and a Web browser.

The SMART Learning Marketplace is available by subscription.

My Content

The My Content area is a Gallery collection reserved specifically for objects you have imported, captured or created. It is a good place to store objects that you will use in multiple presentations. To add an item to the My Content area, drag an item from the work area to the My Content area.

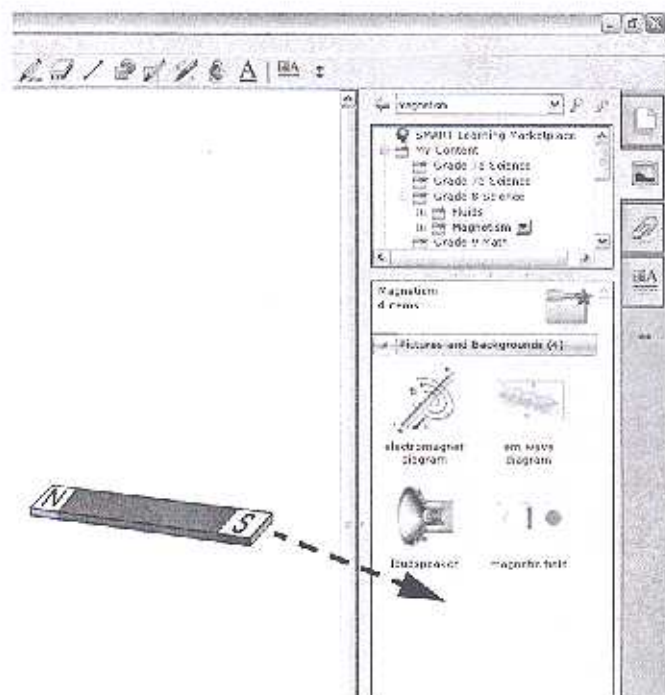
If you often use a particular page layout, you can store a Notebook page as a thumbnail in the My Content area. All the objects associated with the stored page retain their properties. To reuse the stored page, drag its thumbnail from the My Content area to the work area.

You can also store an entire Notebook file in the My Content area. You might do this if you want to give a presentation multiple times. To launch a Notebook file from the My Content area of the Gallery, drag it to the work area.

To import other Notebook files from your computer, follow these steps:

- 1 Click **My Content** and click the down arrow
- 2 From the drop-down menu, click **Add to My Content** to launch the *Add to My Content* dialog box
- 3 Browse to the file you would like to add
- 4 Click the file you would like to add
- 5 Click the **Open** button

Your file will appear as a thumbnail in the My Content area of the Gallery.

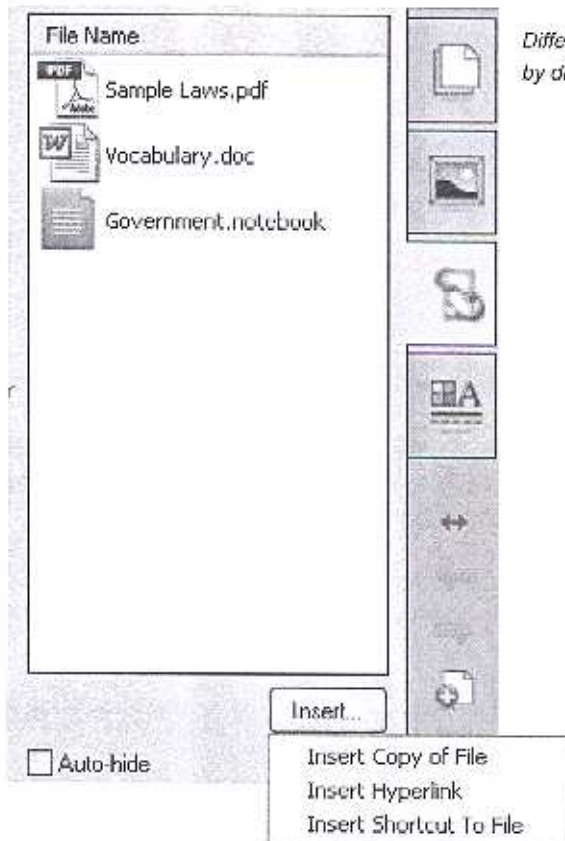


Attachments tab

Make your presentations and lessons more cohesive. The Attachments tab allows you to link to supporting documents, software and webpages directly from your Notebook software file. The Attachments tab is also a good way to store documents or websites in your Notebook software presentation that you might want to use in your lesson.



To insert a copy of a file, click the **Insert** button at the bottom of the Attachments tab, select **Insert Copy of File**, and browse to the file location. Click on the file and click **Open**. If you drag a copy of file attachment to your page, it will become an object with a paperclip icon in the bottom-left corner.



Different kinds of attachments are represented by different icons in the Attachments side tab.

Quiz.doc

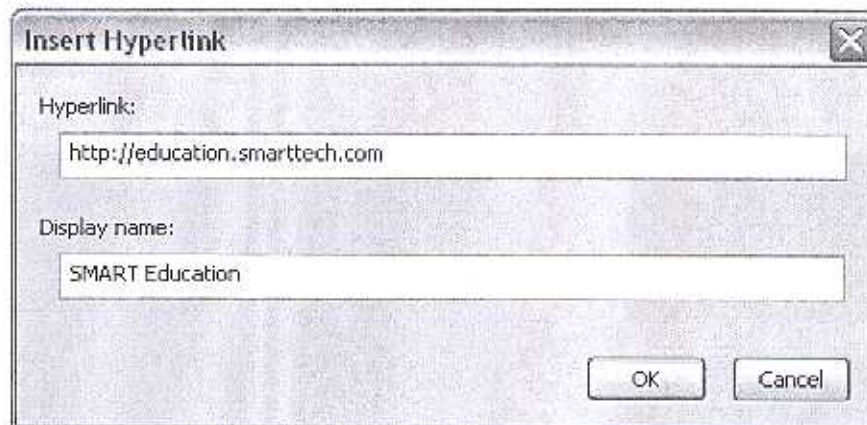
SMART education solutions

A file icon and a hyperlink icon as they would appear on the work area



When you have an attachment associated with your presentation, the appearance of the Attachments tab changes to remind you the attachment is there.

To enter an Internet address, click **Insert Hyperlink**, type the Internet address you would like to add and a Display name. Click **OK**.



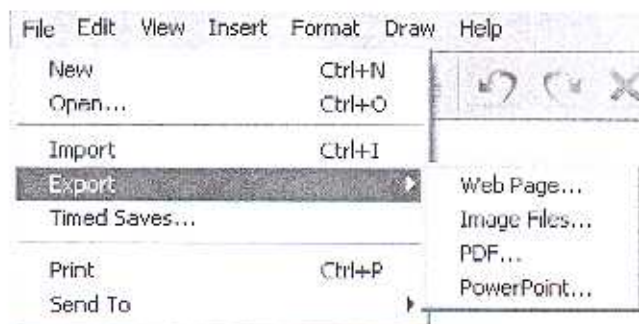
Enter the URL you wish to link. Enter the Display name that will appear on the page. Click **OK**.

There are also occasions where you may want to open a different software application, such as Microsoft Word or Excel software, while remaining in Notebook software. At these times, you will want to insert a shortcut to a file. These files will usually be "executable," that is, they end in **.exe**.

Sharing your Notebook file

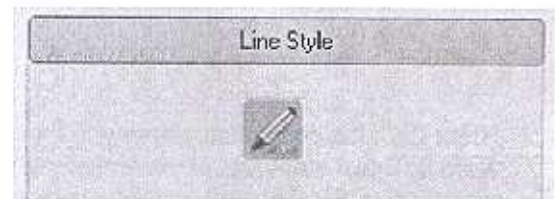
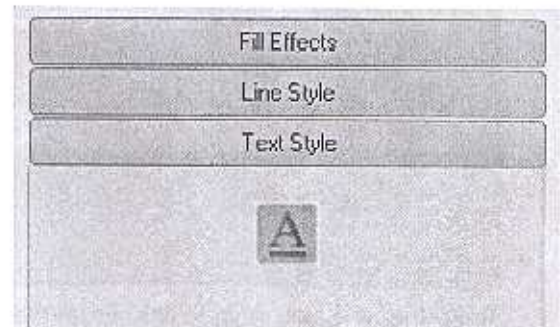
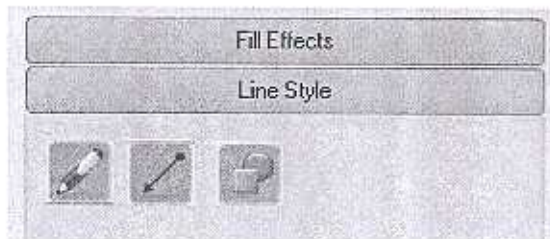
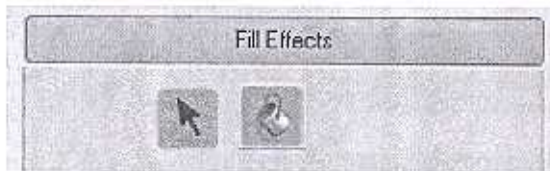
There are several ways you can share your Notebook file with colleagues that are using Notebook software. The easiest way is to save your Notebook file (select **File > Save**), and let them browse to it.

You can also share your valuable content by selecting **File > Export** and save it as a webpage for Internet users or anyone who does not have Notebook software installed on their computer. The content can also be exported as a series of image files or a PDF. Export your Notebook file as a PowerPoint software file if you want to add transitions to your slides.



The Properties tab

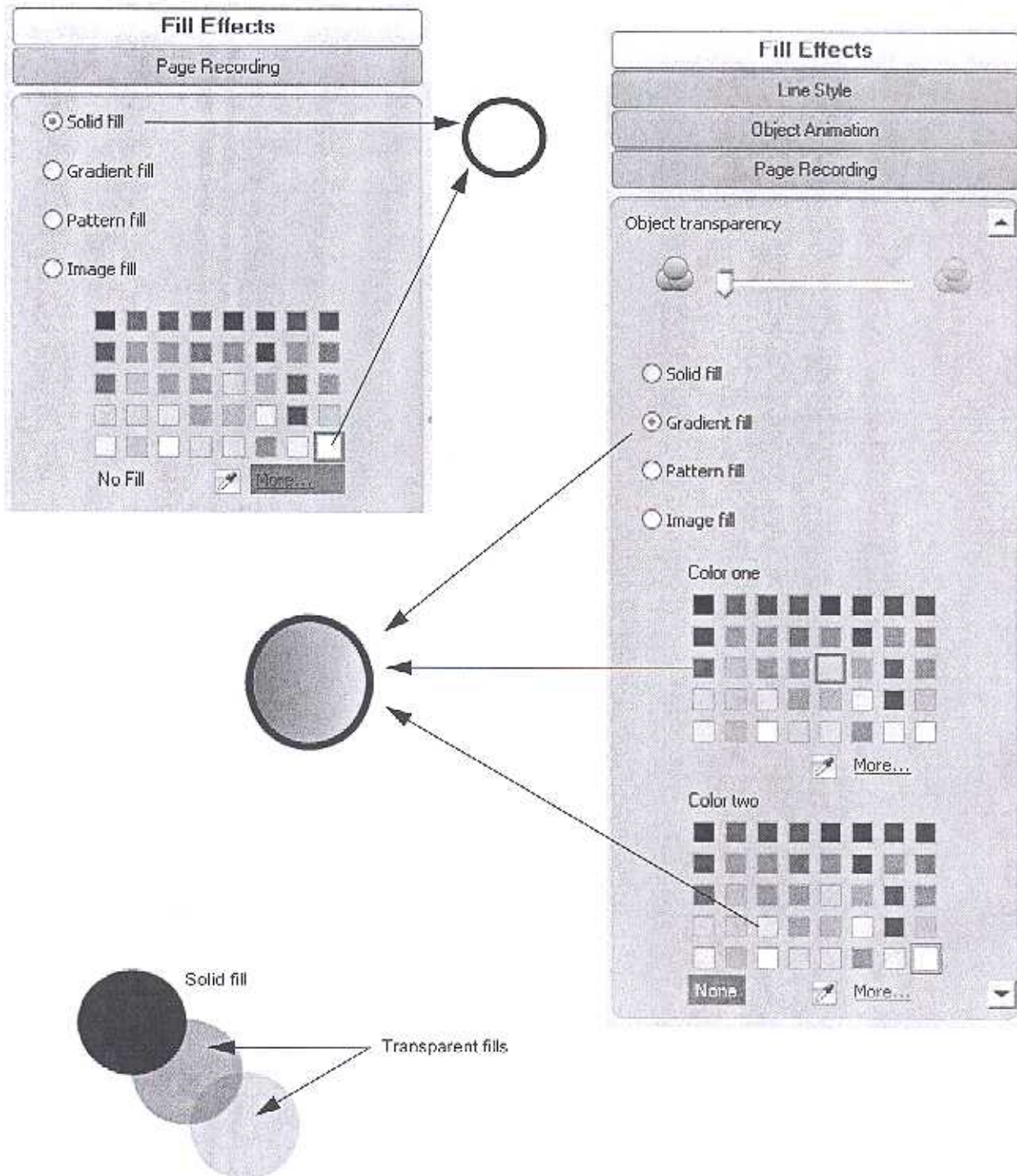
When you click on the Properties tab, the properties shown are dependent on the type of object you are working with at the time. You can change the Line Style of a Creative Pen object. However, you can change the Line, Fill and Text styles of text objects. The properties associated with each type of object are shown below.



Remember, to select any object by clicking with your mouse, you must first click on the **Select** toolbar button.

Change Fill Effects

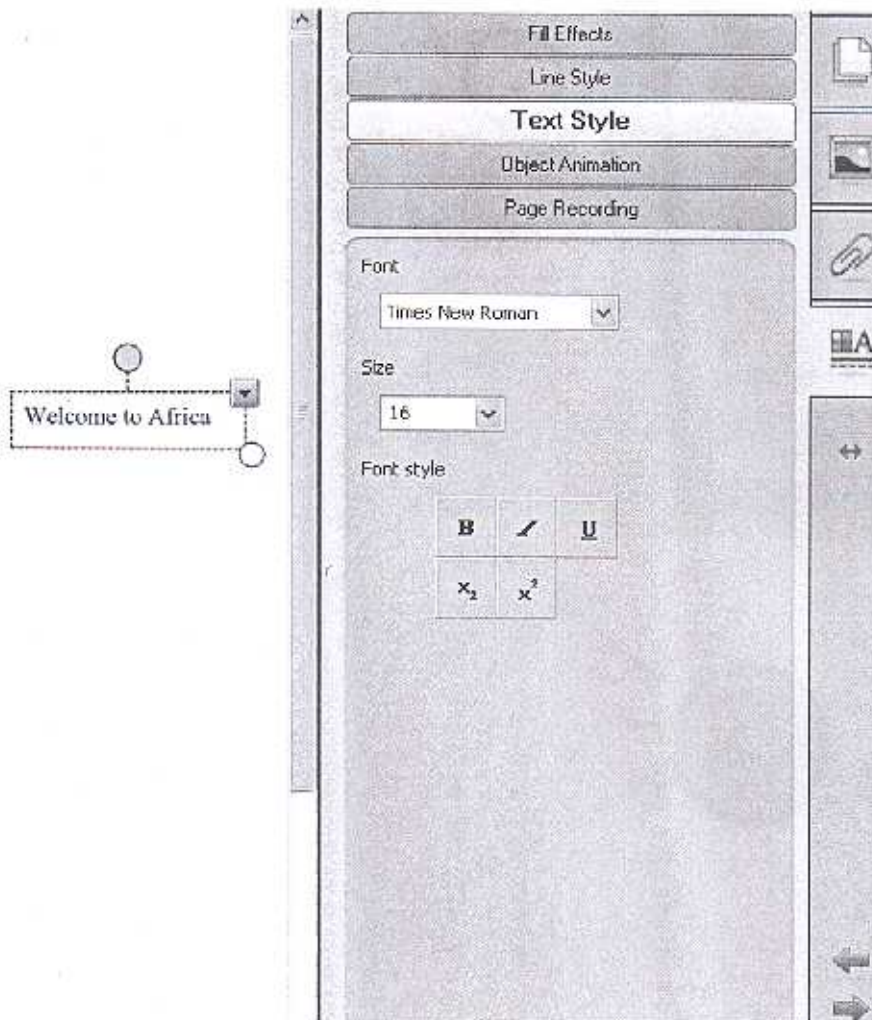
You have many options when you change the fill color of an object. Two are shown below. You can fill an object with a pattern or an image. You can also change the transparency of an object.



Change Text Style

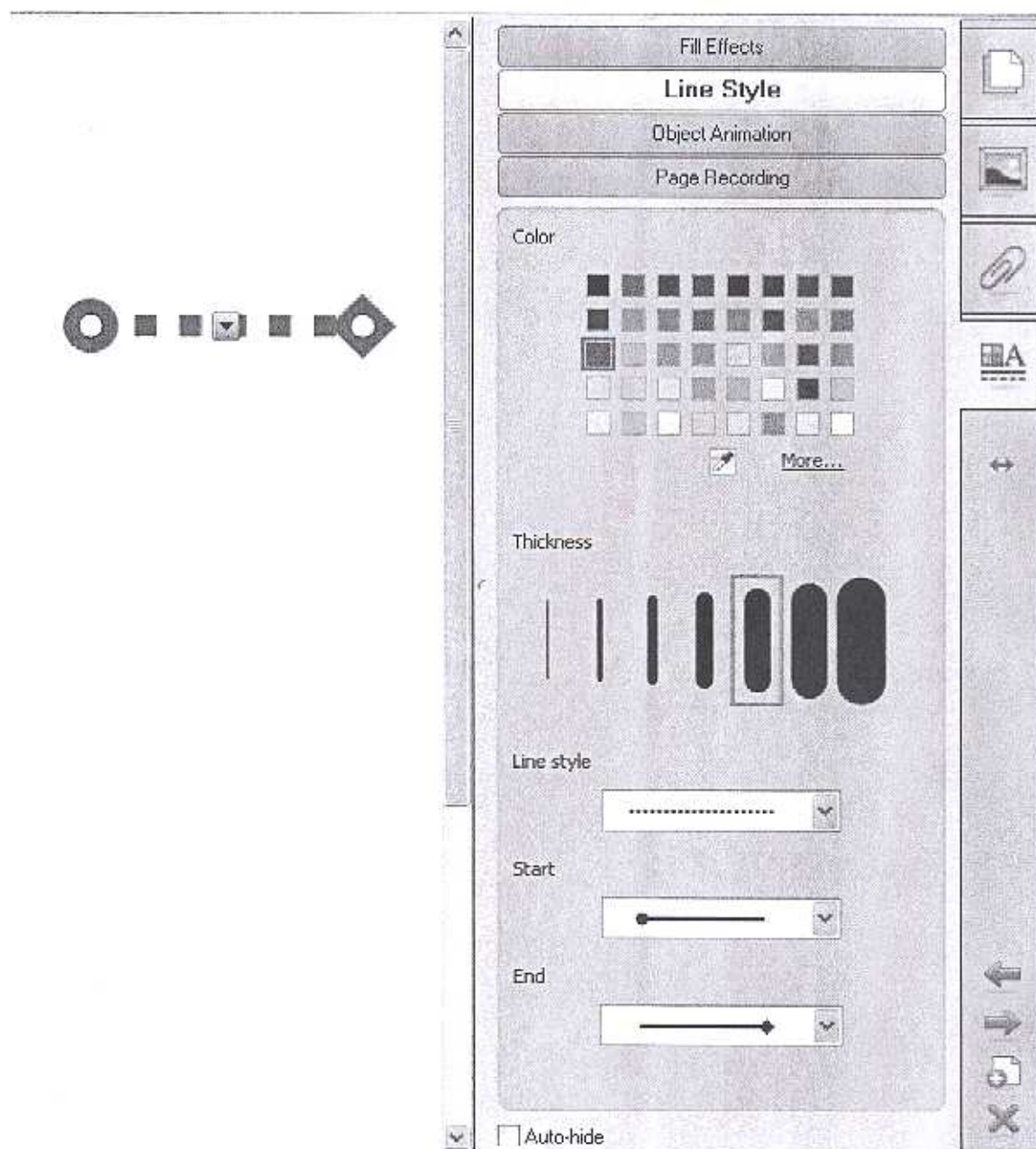
When you click on a text object, and click the Properties tab, several Text Style options become available. You can select the Font, the Size, and the Font Style.

Just click on the drop-down arrow, or click the **Bold**, *Italics*, Underline, ^{superscript} or _{subscript} buttons.



Change Line Style

When a line object is selected and the Properties tab is visible, you can change the color, thickness, style, starting format and ending format of a line.



Review questions: Basics for Notebook software

- 1 What are the four tabs in Notebook software?
- 2 Describe how to move an object from one Notebook page to another.
- 3 How do I add a blank page to Notebook software?
- 4 Why would you change the location of the tabs or toolbar located in the Notebook software?
- 5 Why would you use the Attachments tab?

Review answers: Basics for Notebook software

- 1 What are the four tabs in Notebook software?

Page Sorter, Gallery, Attachments, Properties

- 2 Describe how to move an object from one Notebook page to another.

To move an object, drag it from the work area to a thumbnail in the Page Sorter.

- 3 How do I add a blank page to Notebook software?

Press the plus sign button on the toolbar, or select the drop-down menu on the Page Sorter tab, and select Insert Blank Page.

- 4 Why would you change the location of the tabs or toolbar located in the Notebook software?

Tabs: team-teaching; right-handed or left-handed user

Toolbar: appropriate height for presenter or participants; ability to see top of workspace

- 5 Why would you use the Attachments tab?

You might use the Attachments tab to link to files and webpages that you would like to reference during a presentation or lesson. If the files or webpages are linked from the Attachments tab, your presentation will be more cohesive because you will not need to spend time searching for the appropriate file or program on your computer.

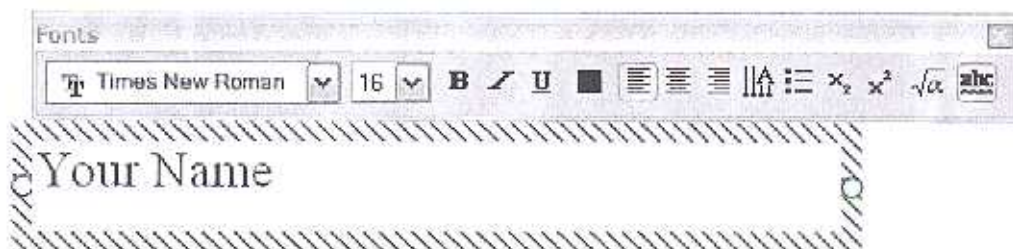
Hands-on practice: Basics for Notebook software

Launching Notebook software

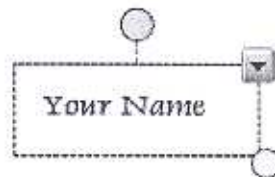
- 1 Launch Notebook by double-clicking on the Notebook software icon on the desktop
- 2 If the *Welcome to Notebook Software* window appears, click on **New Notebook File**

Editing text

- 3 Click in the work area, and type your name. Your name appears in Times New Roman font face, plain style, 16 pt and black color.



- 4 Click the Properties tab, and then click on your name. On the Properties tab, click on **Text Style**. Change the font, the size and the font style of your name.



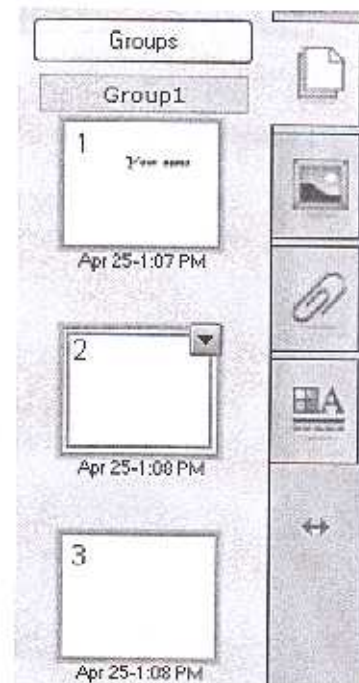
- 5 Click on **Line Style** on the Properties tab. Change the color of your name. Click on the **Save** icon on the toolbar. Choose a name for your file, and click **Save**.



- 6 Click twice on the **Add Page** icon on the toolbar to add two more pages to your file

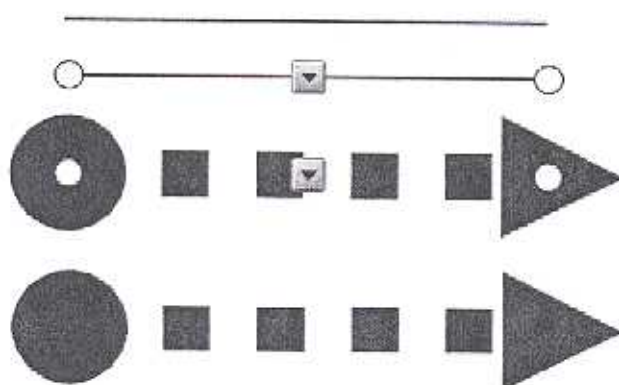
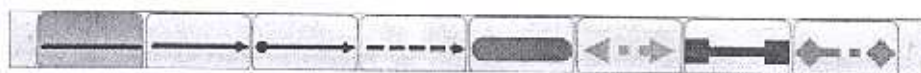


- 7 Click on the **Page Sorter** tab. You will see your two new pages. Page three is now the active page, and it is empty. Your name remains on page one. Click on the second page.



Creating a line

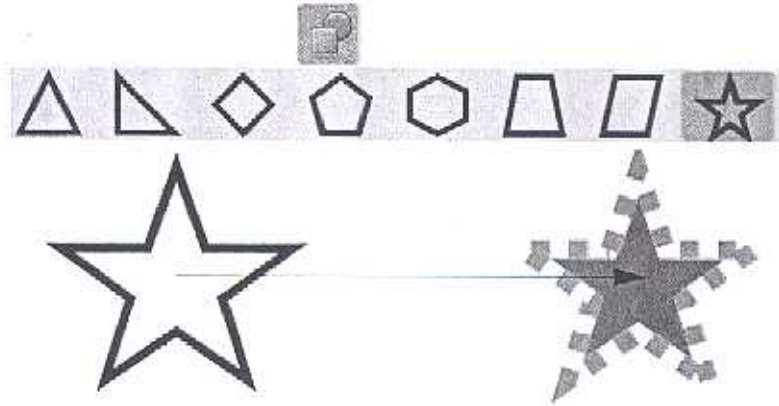
- 8 Click on the second page. Click on the **Draw a Line** icon on the toolbar. Draw a line in the work area. Click on the Properties tab. Click on the **Select** icon on the toolbar. Click on the line you drew in the work area. It is now the active object on the page. Click on **Line Style** on the Properties tab. Change the color, thickness, style, start shape and end shape of your line. Click in the work area. Save your Notebook file.



- 9 Click on the Page Sorter tab. Click on page three.

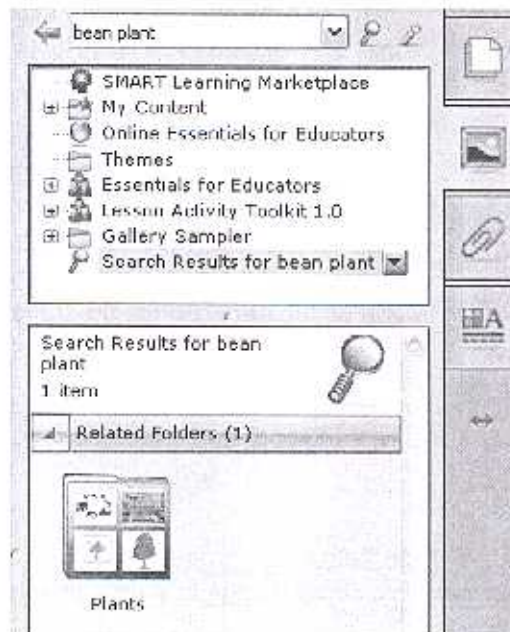
Creating a shape

- 10 Click on the **Create a Shape** icon on the toolbar. Click on the star shape on the subtoolbar. Draw a star in the work area on page three. Click on the **Select** icon on the toolbar. Click on the Properties tab. Click on your star. Your star is an active object on the page, and **Fill Effects** are active on the Properties tab. Change the fill color of your star. Click **Line Style** on the Properties tab. Change the color, thickness and style of the line border of your star. Click in the work area. Save your file.



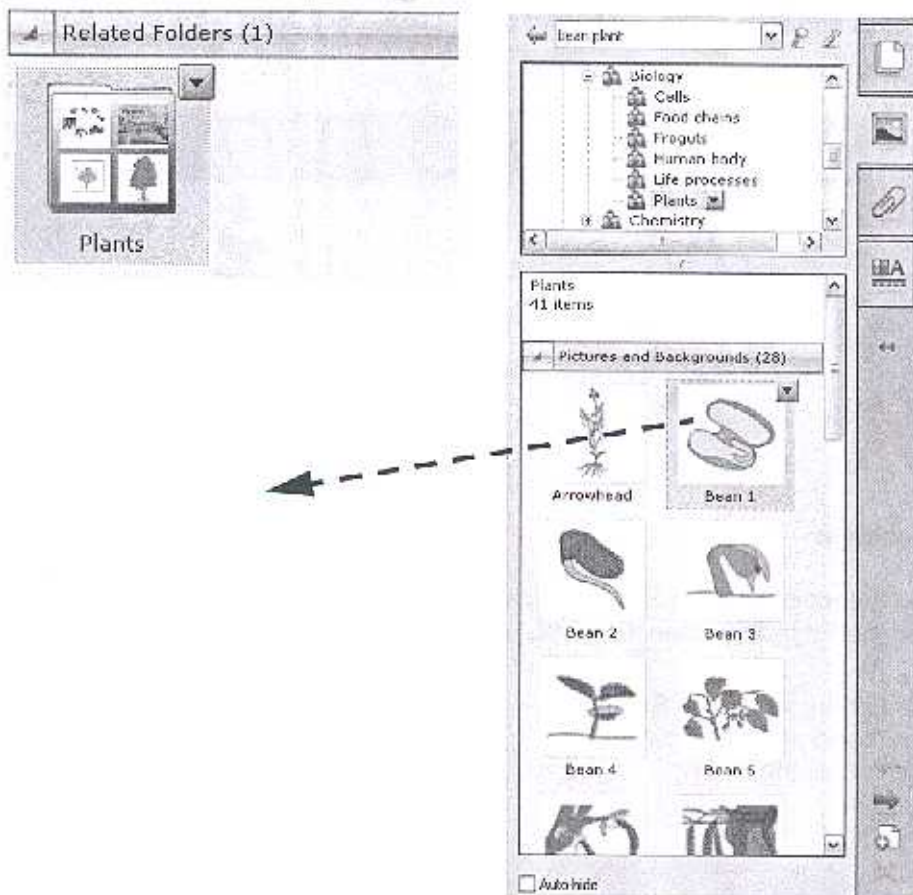
Adding Gallery content

- 11 Click on the **Select** icon on the toolbar. Click on the **Add Page** icon to add another page to your file. Click on the Page Sorter tab. Page four is now the active page.
- 12 Click on the Gallery tab. In the Search window, type *bean plant*, and click on the **Search** icon, or the large magnifying glass.

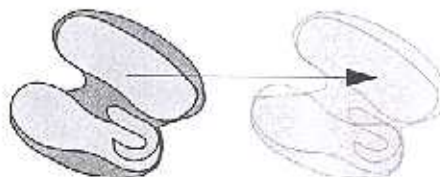


- 13 Click on **Related Folders** and click on the **Plants** folder. Click the arrow on the folder and click **Open**. Click on **Pictures and Backgrounds**. Click one of the pictures, and drag it to the work area. Your picture is now an active object.

Search Results for bean plant
1 item



- 14 Click the Properties tab, and change the transparency of the picture. Save your file.



- 15 Click the Page Sorter tab. Drag page four so it will appear immediately after page one.
NOTE: When you drag a page to a new location, a solid bar indicates the new position. Save your file.
- 16 Share your results with your colleagues. Close Notebook software by clicking **File > Exit**.

Objects in Notebook software

What is an object?

All text, images, audio, video and multimedia are considered objects in Notebook software. You can change the properties of these objects to make your presentation more effective.

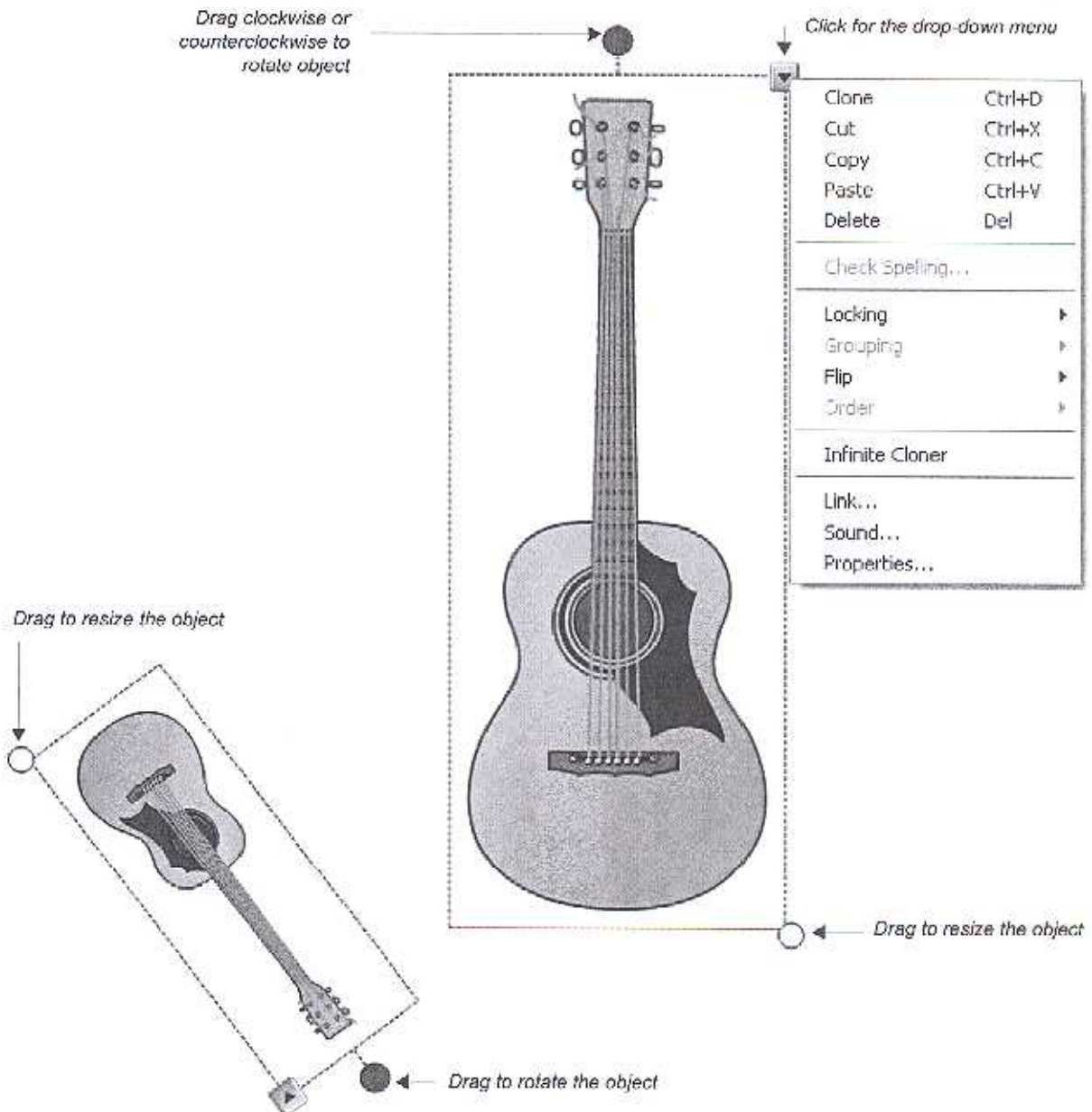
Manipulating objects in Notebook software

Anything placed inside the work area is considered an object. You can add an object to a Notebook page using any of the following methods:

- Typing text
- Drawing or writing in the work area with a pen tool
- Creating a geometric shape with the Notebook software toolbar drawing tools
- Inserting content from the Gallery, a computer, or the Internet

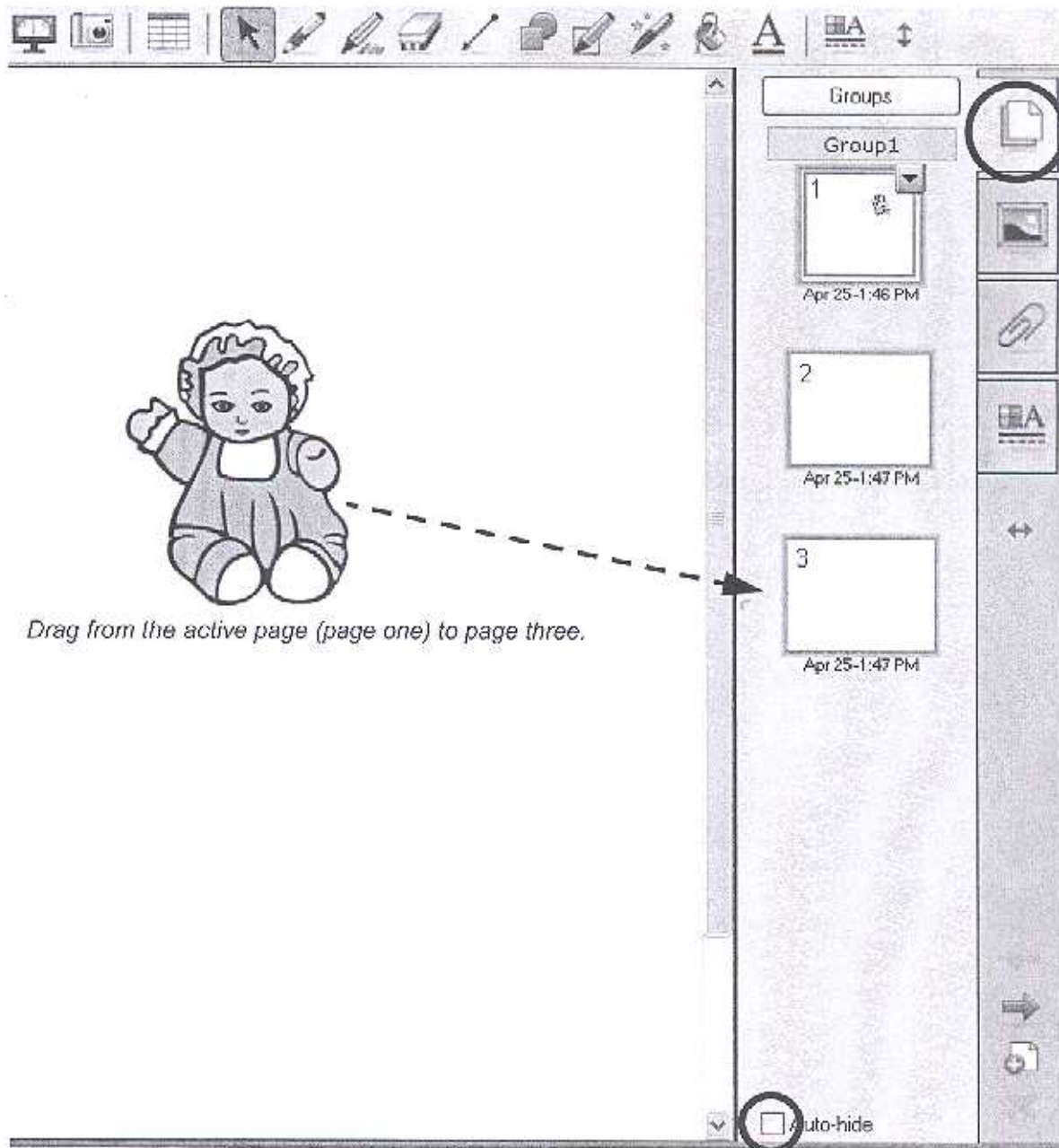
Modifying objects

Select any object on the Notebook page to change its properties. Selected objects have two handles. Use the solid handle to rotate the object and the clear handle to make it larger or smaller.



Moving objects

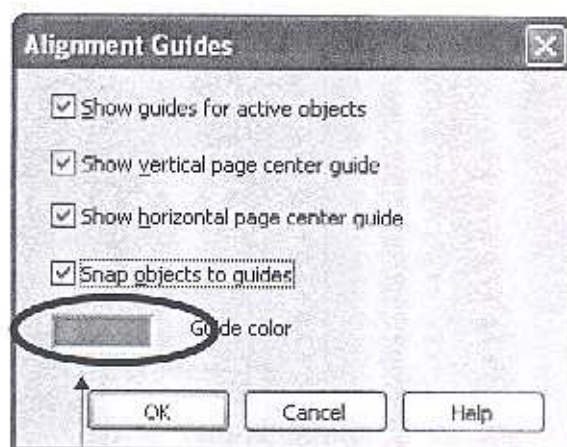
To move an object from one page to another, ensure the Page Sorter tab is active and the Auto-hide check box is not checked. Then click on the object you would like to move and drag it to the appropriate page.



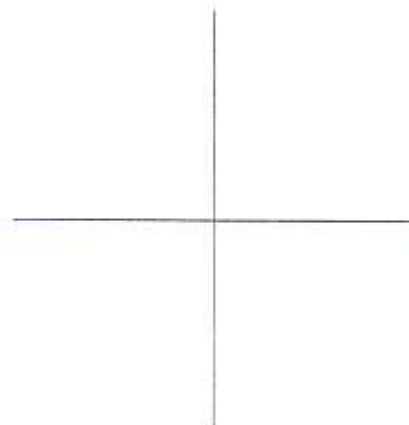
You can also move objects using the Cut and Paste commands from the drop-down menu and the menu bar. Click on the object to select it. From the object drop-down menu, click **Copy** if you want to keep the original object, or **Cut** if you want to remove the original object. Click on the page you want the object to appear. From the drop-down **Edit** menu on the menu bar, click **Paste**.

The Alignment Guides

The Alignment Guides allow you to control the placement of objects on your page, so objects can be placed exactly where you want them to be. Click **Format, Alignment**, from the menu bar to set the alignment guide defaults.



Click on the Guide color box to change the color of the guide lines.



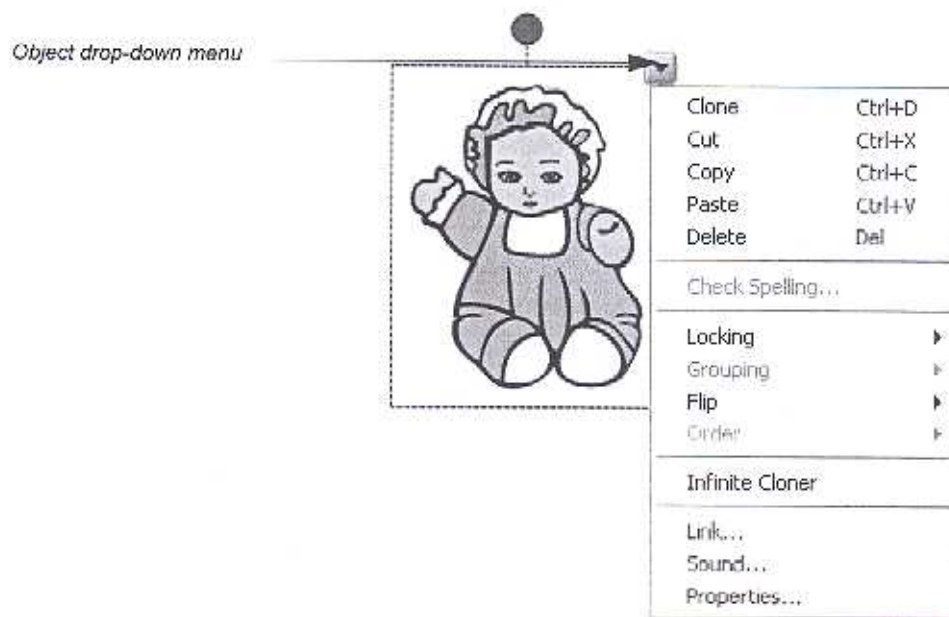
Lines mark the center of your page

Your Name	Your Name	Your Name
-----------	-----------	-----------

Object drop-down menu

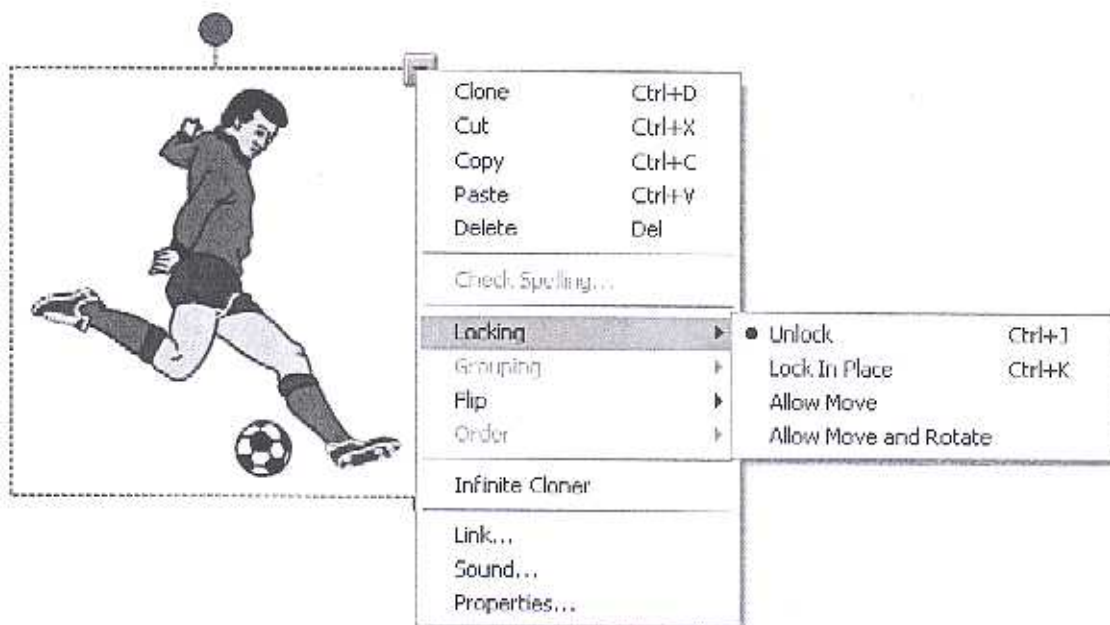
The object drop-down menu gives you one-click access to an object's properties.

Item	Description
Clone	Creates an exact copy of the object or objects next to the original object
Cut	Removes the selected object from the Notebook page and places it on the clipboard
Copy	Creates an identical copy of the selected object
Paste	Places the object from the clipboard onto the Notebook page
Delete	Deletes the selected object
Check Spelling	Checks the spelling for the text object(s) selected
Locking	Protects an object or an entire group of objects from editing. Choose between Lock In Place, Allow Move, and Allow Move and Rotate.
Grouping	Group two or more objects to act as one object. Select, change, move, delete and resize a group as a single unit. To edit or resize the objects individually, ungroup them.
Flip	Flip an object either horizontally or vertically
Order	Change the order in which objects are layered
Infinite Cloner	Make unlimited copies of an object on a Notebook page. Select and drag the object to create as many clones as required.
Link	Link an object to a website, another Notebook page, a file on a computer or a file, such as a video clip or other multimedia element, residing in the Attachments tab
Sound	Attach a sound file to any object
Properties	Change the visual characteristics of any object you've created in Notebook software



Locking objects

Locking an object allows you to protect the properties you have applied to it. The choices in the Locking submenu allow you to determine the type of lock to use on an object.



Click the **Lock In Place** option to ensure the object cannot be altered or moved in any way.

Click **Allow Move** to let you move an object, but not resize, rotate or change any of the object's properties. You might use Allow Move if you were creating a Notebook file that would be used to teach ordering, but wanted to ensure all the objects on the page remain the same size.

Click **Allow Move and Rotate** to let you move and rotate an object, but not resize it. You might use Allow Move and Rotate if you created a Notebook file with a puzzle component and you wanted your students to arrange the puzzle pieces. You can place the puzzle pieces wherever you wish on the Notebook page and rotate them to make the puzzle more challenging – without worrying that participants might resize the piece.

Unlock an object by doing the following:

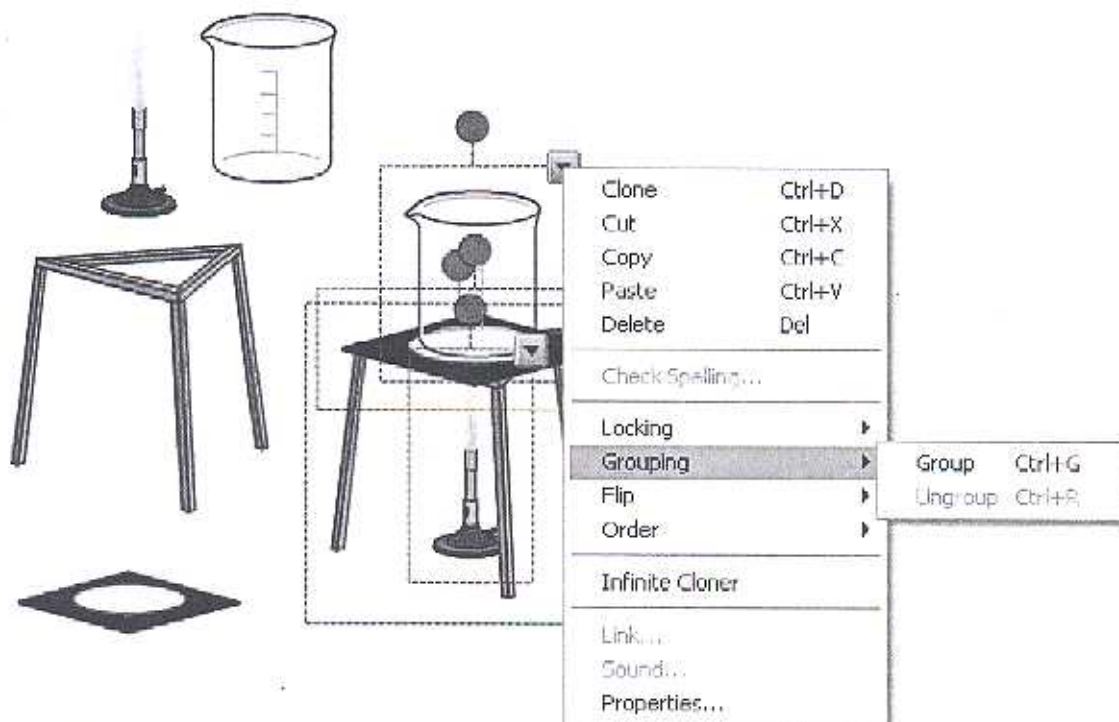
- 1 From the menu bar, click **Edit > Select All Locked Nodes**. The Lock icon will appear on any objects you have locked.
- 2 Click the **Lock** icon
- 3 Click **Unlock** from the menu. Alternatively, right-click on an object – the Lock icon will appear with its lock menu. Click **Unlock** from the menu.



Grouping objects

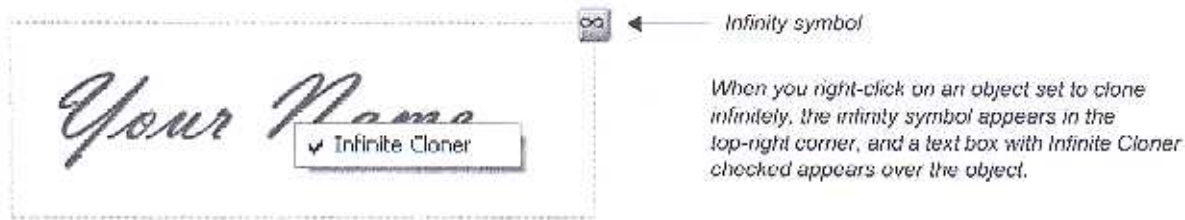
Select two or more objects by holding down your left mouse button and dragging your mouse diagonally so the objects are surrounded by a selection box. You can also hold the **Shift** key down while you click on each of the objects you wish to group.

Click the drop-down menu from any of the objects and choose **Grouping > Group**.



If you want to separate the objects, select the grouped objects again and choose **Grouping > Ungroup**. The Ungroup function will also break handwritten notes into individual pen strokes.

Infinite Cloner



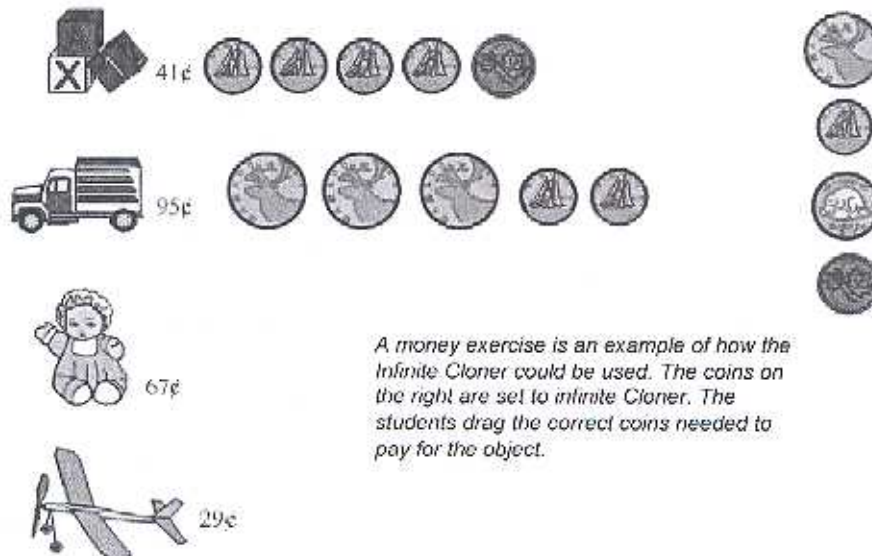
The Infinite Cloner option in the object drop-down menu allows you to reproduce an object an unlimited number of times, without having to click Clone repeatedly from the drop-down menu. You might use the Infinite Cloner to teach counting or to present math problems.

Select, then press and drag an object to create an identical object.



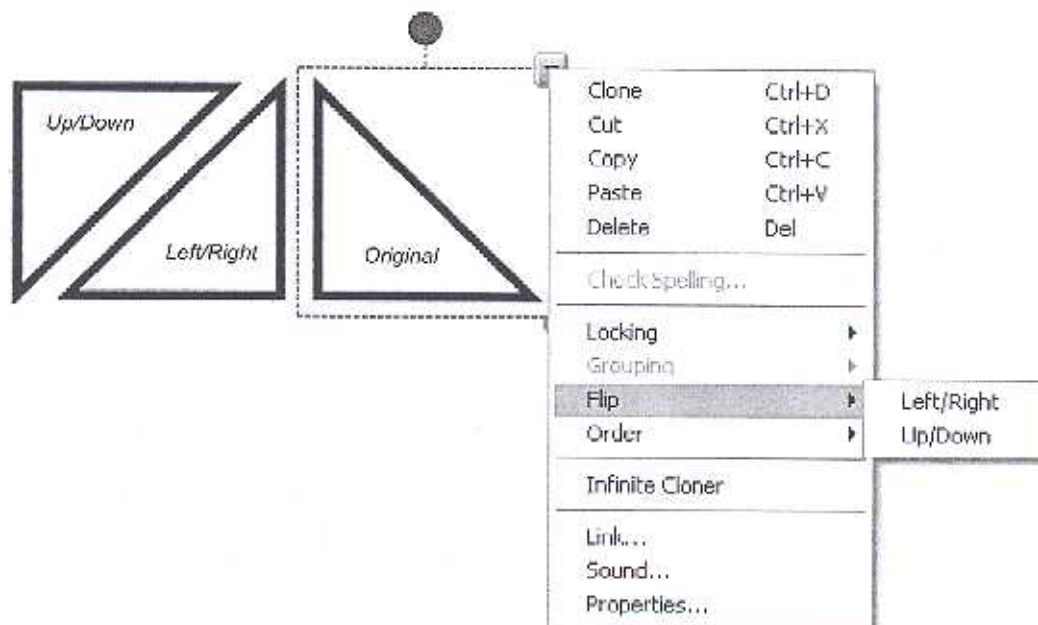
Click **Infinite Cloner** from an object's drop-down menu. Now, when you click and drag an object set to infinitely clone, another identical object is created. You can continue to create clones of the object by dragging it until you deselect Infinite Cloner.

To turn off the Infinite Cloner property, right-click on the object, and click on the Infinite Cloner box. The check mark will disappear, indicating the Infinite Cloner is off.



Flip objects

Click **Flip** from an object's drop-down menu to flip an object either horizontally or vertically.



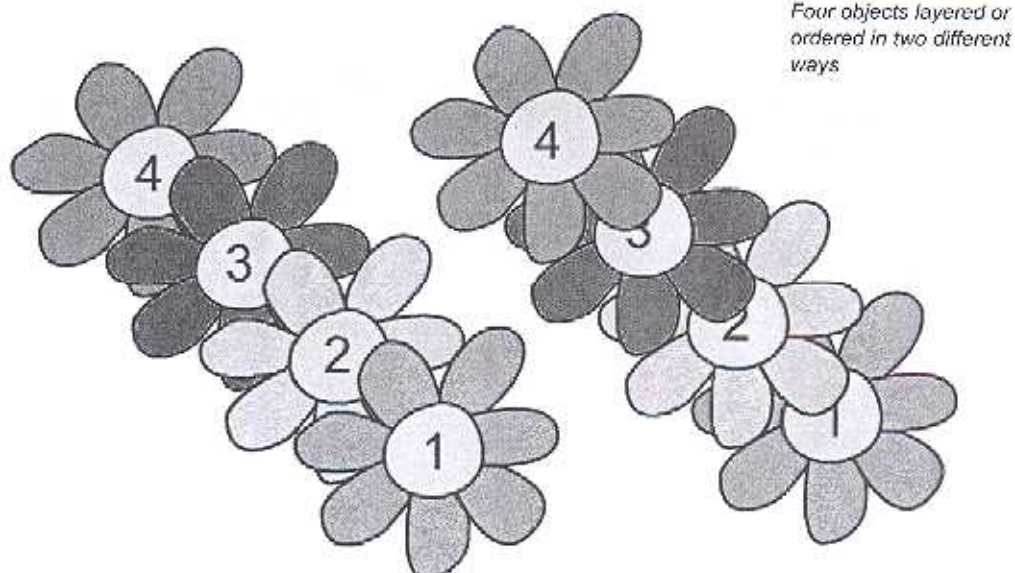
Order objects

You can change the order in which objects are layered by selecting **Order** from the drop-down menu.

To reorder an object one layer at a time, use the **Bring Forward** command or the **Send Backward** command.

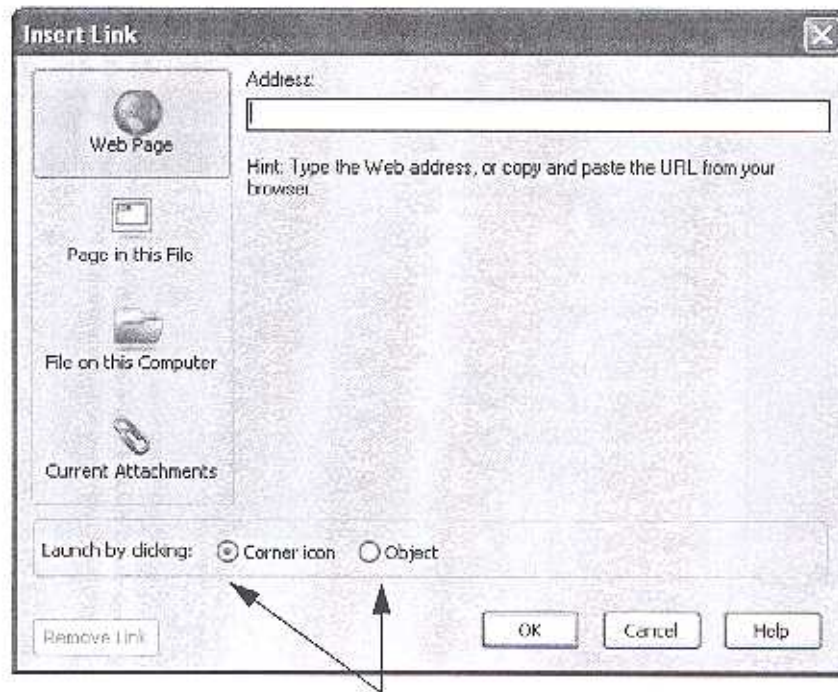
To bring an object directly to the top layer of the page, use the **Bring to Front** command.

To send an object to the bottom layer of the page, use the **Send to Back** command.



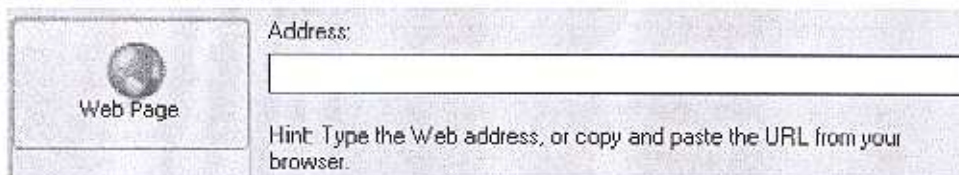
Adding links to objects

You can link an object to a website, another Notebook page, a file on your computer or a file residing in the Attachments tab. Click **Link** from an object's drop-down menu, and choose the type of link you would like to add to your object from the *Insert Link* dialog box.



You can choose to launch your link by clicking on an icon at the side of the object or by clicking on the object itself.

Link to a Web Page

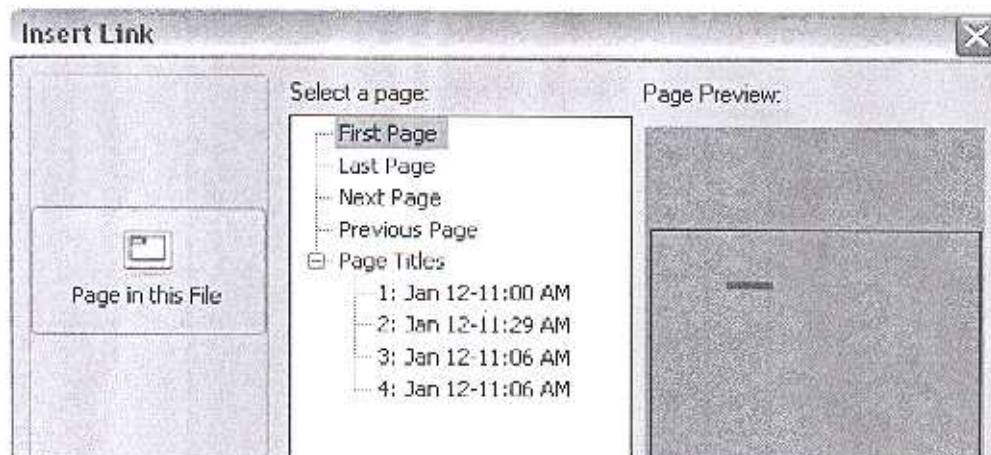


Once the link is attached to the object, every time you click it your Internet browser will launch and display the requested page.

Link to a Page in this File

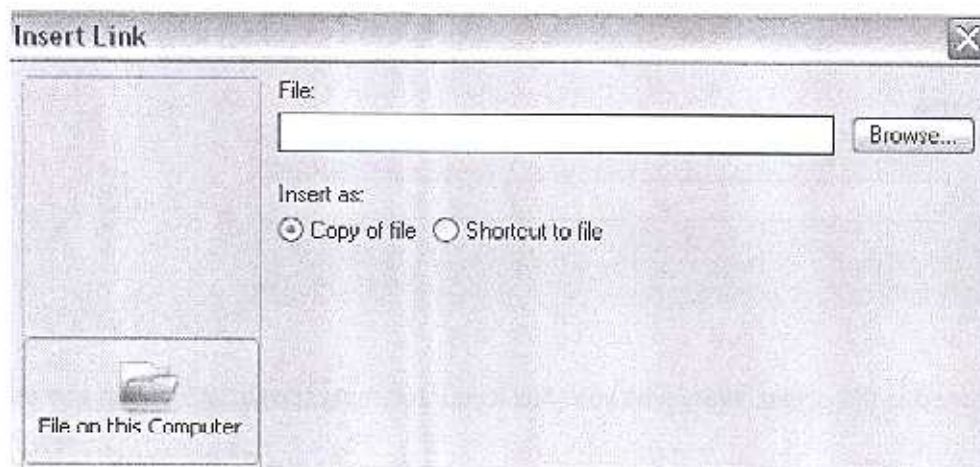
You might use this type of link when presenting a question. For example you could ask a question, then ask a student to select from a set of objects representing potential answers.

The object containing the correct answer could link to a reward screen. The objects containing incorrect answers could link to a page that encourages the student to try again.



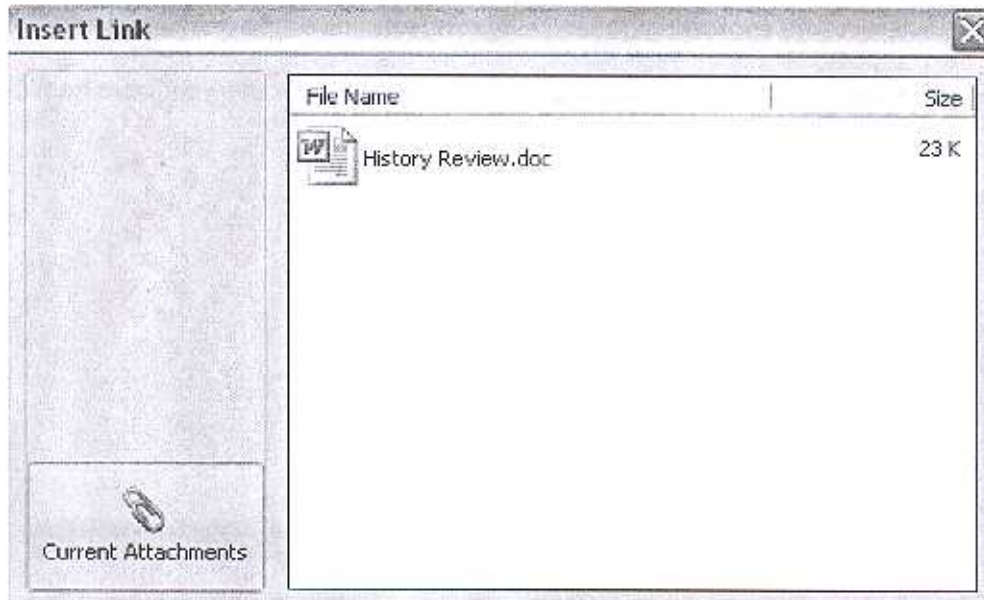
Link to a File on this Computer

Link to a file stored on your computer that relates to your lesson or presentation. For example, you could link to a Microsoft Word or Excel software file that contains information that qualifies a statement in your Notebook file.



Link to Current Attachments

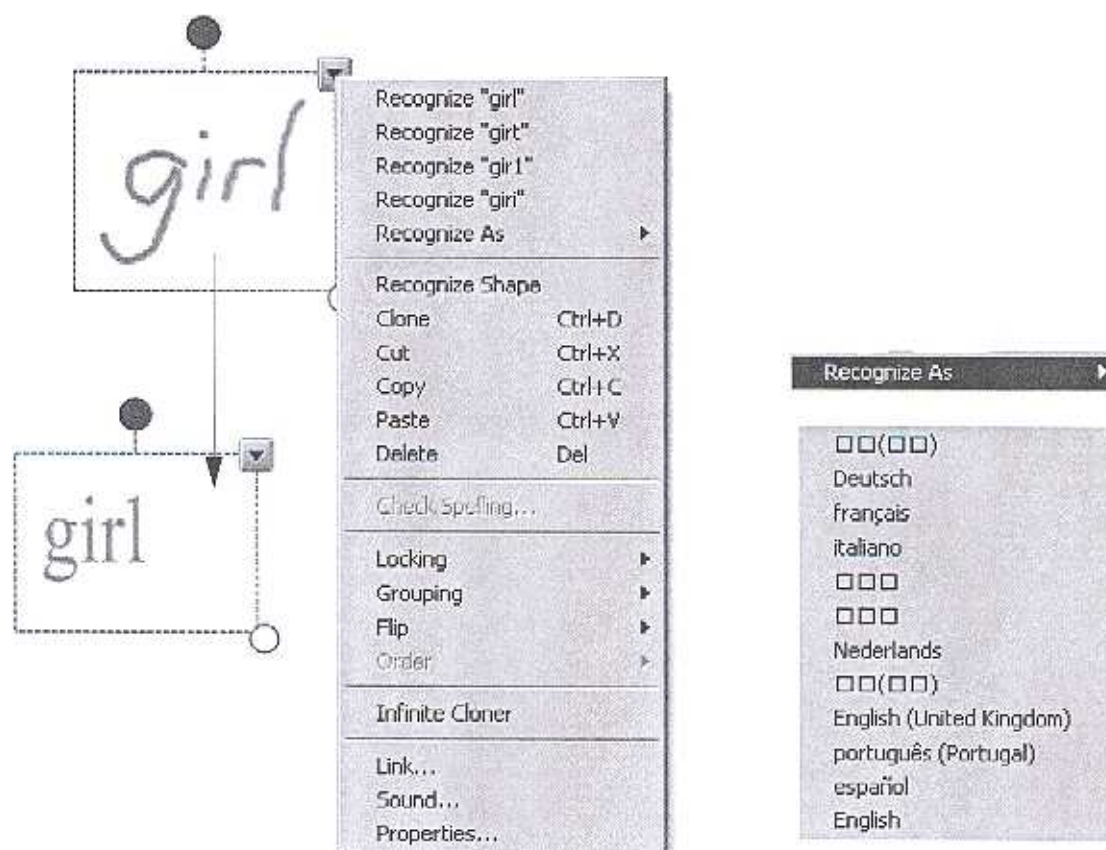
Link to a file you have stored in the Attachments tab.



Handwriting recognition

If you have written something with a pen tool in Notebook software, you have the option of having your handwriting recognized and converted to text. This tool is primarily used when working on the interactive whiteboard, but does have teaching applications when developing lessons on the computer.

To convert a handwritten word to text, click the object drop-down menu and choose your word from the list.

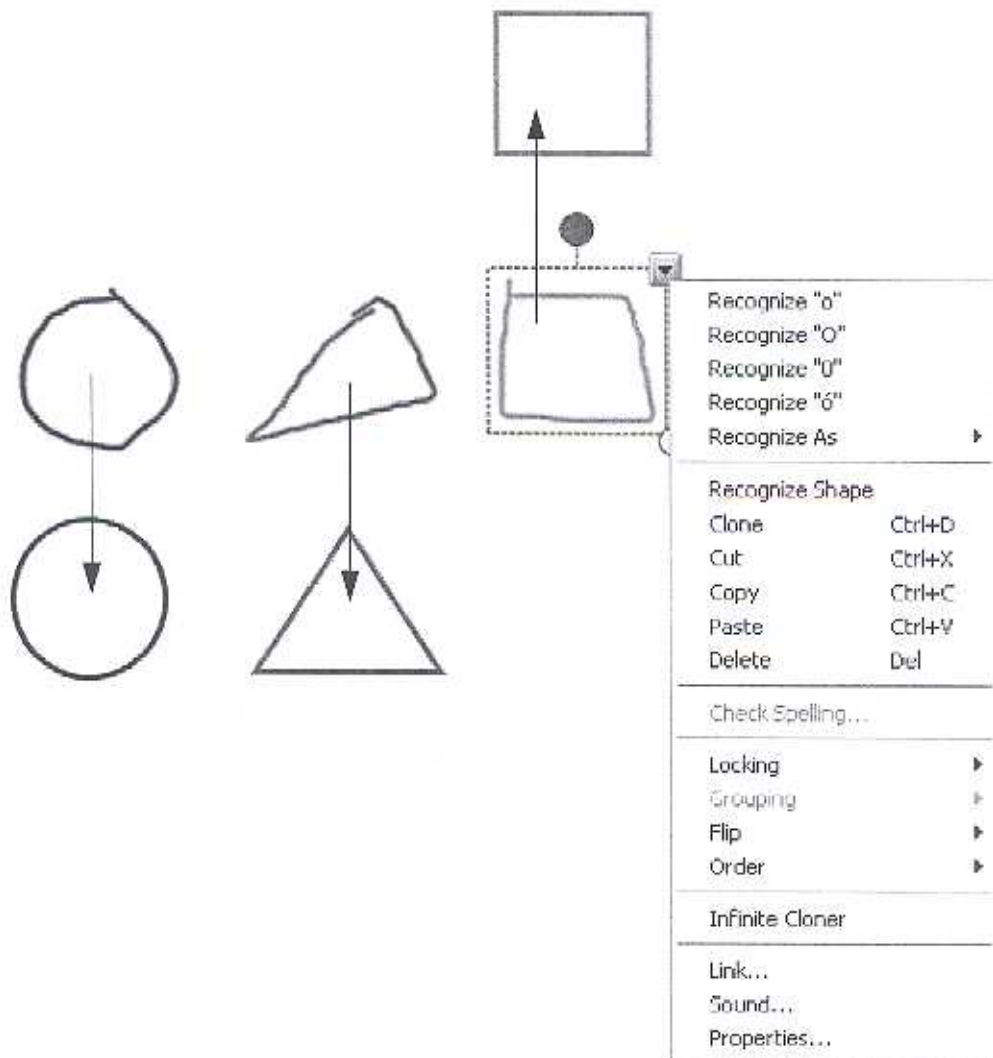


TIP: You can recognize words in different languages. Just select a different default language from the list.

Shape recognition

Shape recognition works in a fashion similar to handwriting recognition. Shapes can also be recognized as letters and numbers.

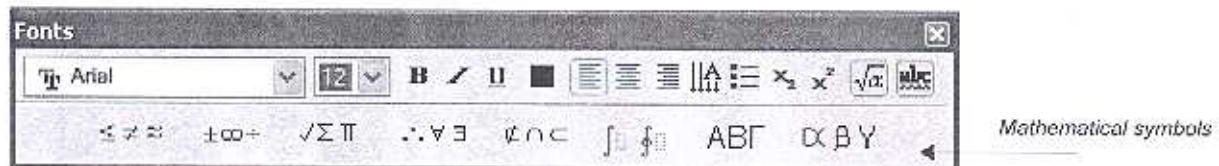
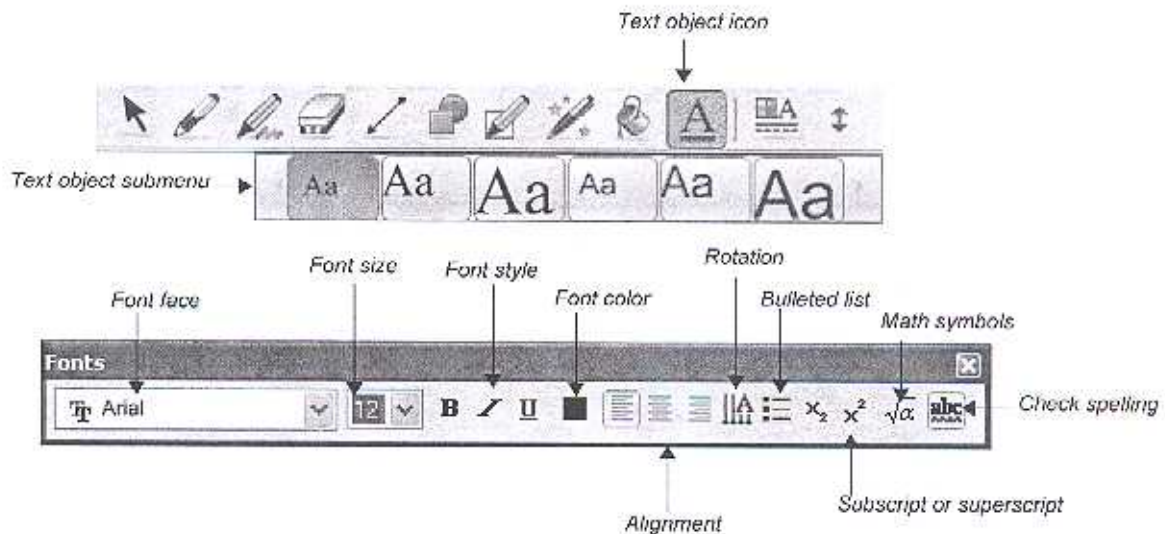
If you draw a shape with a pen tool, you can go to the drop-down menu when the shape is selected and then select **Recognize Shape** to convert it to a shape. You can also use the Shape Pen from the Notebook software toolbar to draw instant shapes.



Typed text

To add typed text as an object to the Notebook file, simply type with a keyboard and press **Enter** when you have finished.

The Fonts toolbar appears while you are typing or after you click the text object icon on the Notebook software toolbar and click on the work area. Use it to format properties, such as font, size, font style, color, alignment, rotation, bulleted list, subscript, superscript, mathematical symbols and spell checker options. You can also quickly change your font by clicking on one of the options in the text object submenu.



The Sedov equation (simple linear relationship)

$$R^5 \propto Et^2 / \rho$$

- lion
- elephant
- zebra

Bulleted list



giraffe

Rotated text

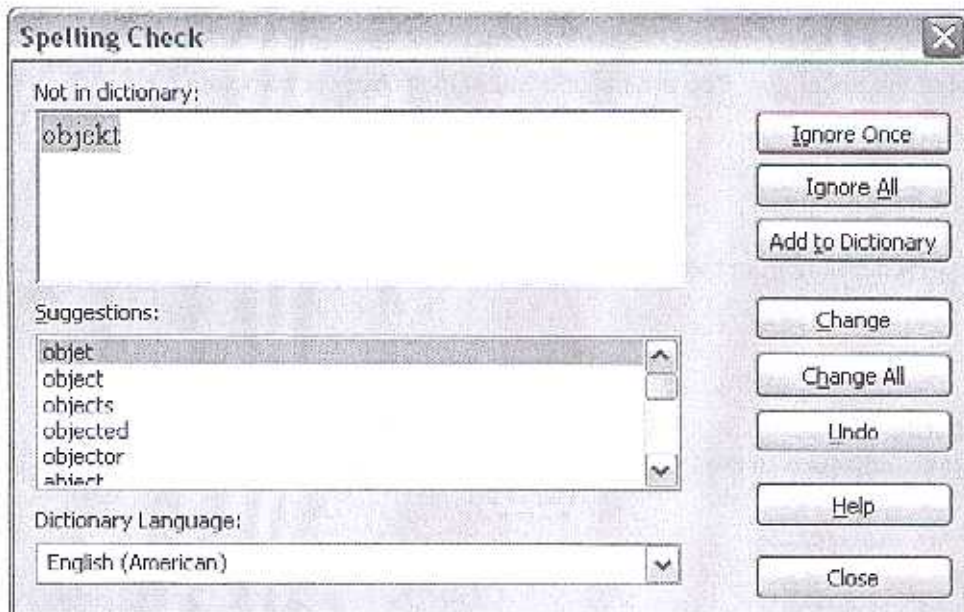


Check Spelling



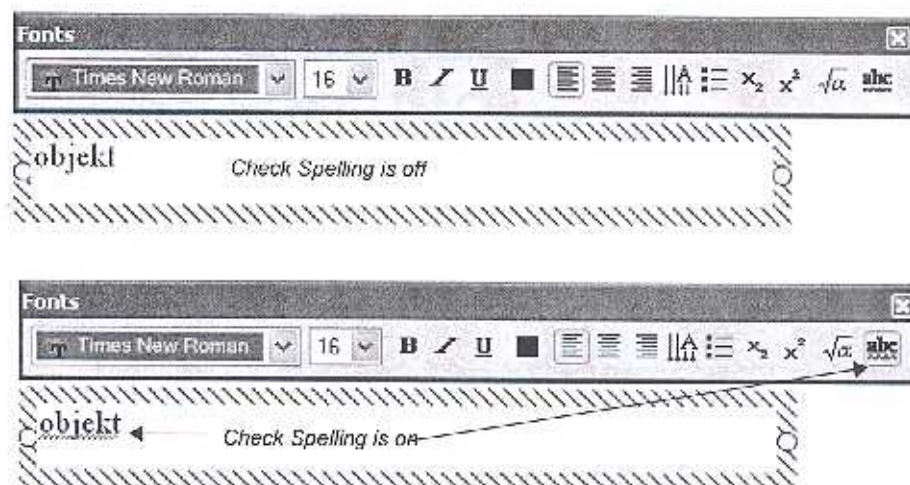
Click **Check Spelling** from the drop-down menu to check the spelling of a text object.

The *Spelling Check* dialog box will appear with a list of spelling suggestions if the spelling of the selected text object is incorrect. Chose the correct spelling of the text object from the suggestions list, and click the **Change** button to correct the misspelled word.



When Check Spelling is turned on at the toolbar, make sure you tap the space bar at the end of the word. This action indicates you are finished typing, and Check Spelling can begin.

When you turn the spell checker on, incorrectly spelled words will appear underlined in red as you type.



To spell check all the text objects in your file, click on any one text object to select it, and from the drop-down menu click **Check Spelling ...** Notebook software will check the spelling of that word and then ask if you wish to check the rest of the document. You are notified when spell check is complete.

Drawing tools

Use the drawing tools – accessible from the Notebook software toolbar – to create your own objects.



Pen and Eraser tools

Use your mouse to create objects with the Pen, Creative Pen or Shape Pen tools.



The same object drawn with three different pens: Pen, Creative Pen, Shape Pen



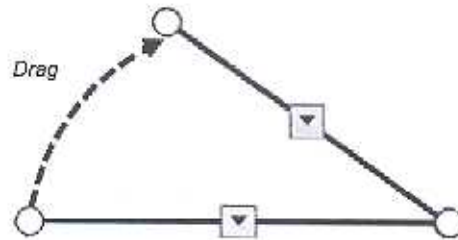
Part of the Creative tool object erased by the Eraser tool



The Eraser tool erases anything you have created with a pen tool. When you erase part of an object, the properties of the remaining parts can be changed independently.

Line tool

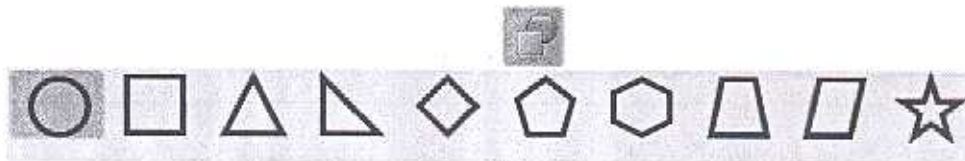
Press the **Line** button on the Notebook software toolbar to draw straight lines. Select any line made with the Line tool, and drag the end points to stretch it or change the angle. Hold down the **Shift** key while pivoting a line, and the line will snap in place every 45°.



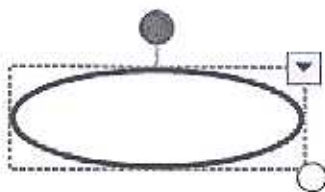
Shapes tool

Enhance any activity with the Shapes tool on the Notebook software toolbar.

Create a shape



When you click on the Shapes icon, a menu of shapes will appear. Click on the shape you would like to use, and position your cursor on the page where you would like to create the shape. Hold down the left mouse button and drag your cursor until your shape is the desired size. To draw a *perfect* shape, hold down the **Shift** key while drawing your shape.



Once a shape is on your Notebook page, it can be modified the same way you modify other objects, using the rotation handle, the resize handle or the drop-down menu.

If you click on the **Select** tool icon and then double-click on the shape, a text box will appear and you can add a label to your shape.

Fill tool







Any shape can be quickly filled with color by tipping the paint can over the shape object. The fill color is the last color chosen from the color palette. To change the color in the paint can, click on the shape icon, click on the paint can, click on the Properties tab and select a color from the color palette.

Inserting images into Notebook software

To add an image to the Notebook file, use the Insert menu to import graphics or clip art from another location on your computer.

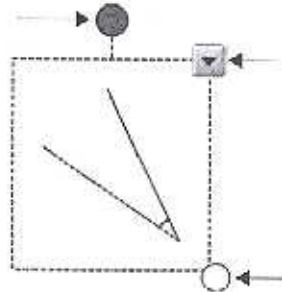
Capturing information

The Screen Capture toolbar allows you to capture an image, such as a digital photo from the Internet, to a Notebook page. To access the Screen Capture toolbar, click the **Screen Capture** icon (the camera), on the Notebook software toolbar. Always remember to respect copyright.

Button	How it's used
	Hold down the left mouse button, and drag to outline the rectangular area you want to capture. Release the left mouse button after the area is selected.
	Click in the window you want to capture. Release the left mouse button after the desired window appears as a hatched area.
	Navigate to the screen you want to capture, and click the button to capture the entire screen
	Press and drag to create a freehand shape around the area you want to capture. Release the left mouse button after the area is selected.

Review questions: Objects in Notebook software

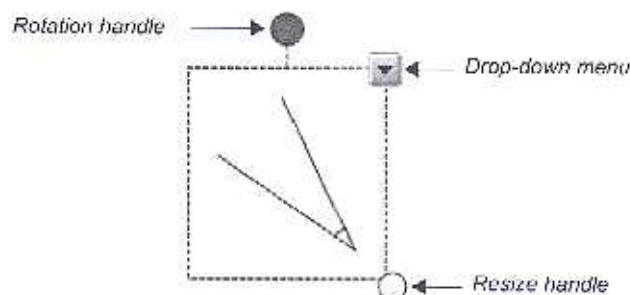
- 1 Label the rotation handle, the resize handle and the drop-down menu on the object below.



- 2 Describe how to move an object from one Notebook page to another.
- 3 Why would you add a link to an object that would direct you to another page in your Notebook file?
- 4 What is the difference between **Send to Back** and **Send Backward** when ordering objects?
- 5 How do you spell check within a Notebook file?

Review answers: Objects in Notebook software

- 1 Label the rotation handle, the resize handle and the drop-down menu on the object below.



- 2 Describe how to move an object from one Notebook page to another.

To move an object, drag it from the work area to a thumbnail in the Page Sorter.

- 3 Why would you add a link to an object that would direct you to another page in your Notebook file?

You might use this type of link when presenting a question in Notebook software. For example, you could ask a question, then ask a student to select one of the answers. The object containing the correct answer could link to a reward screen. The objects containing an incorrect answer could link to a screen with an object that encourages the student to try again.

- 4 What is the difference between **Send to Back** and **Send Backward** when ordering objects?

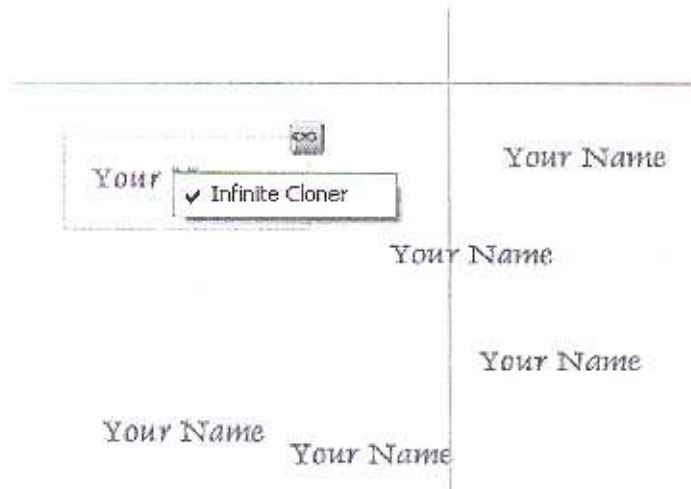
***Send Backwards** reorders objects one layer at a time. **Send to Back** sends an object to the very bottom of a pile of objects.*

- 5 How do you spell check within a Notebook file?

On the fonts toolbar, select the Check Spelling icon. From the Object drop-down menu, select Check Spelling.

Hands-on practice: Objects in Notebook software

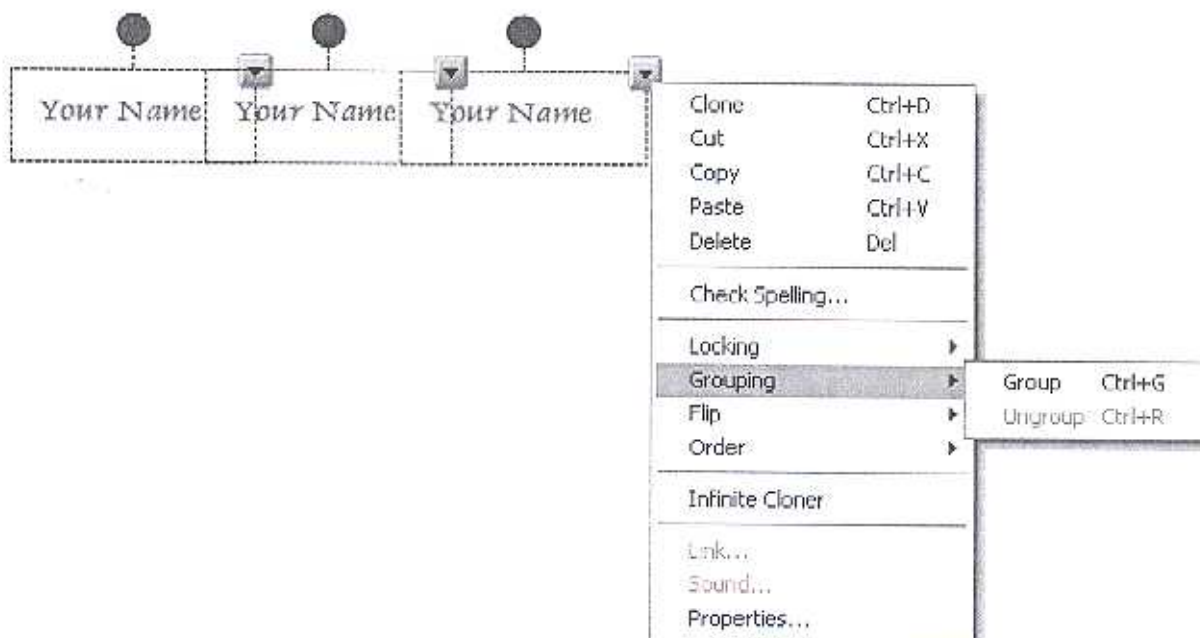
- 1 Launch Notebook software by double-clicking on the Notebook software icon on the desktop. Open a new file.
- 2 Set your Alignment Guides (**Format > Alignment**). Click all options to activate them. Click **OK**. The thin lines appear that mark the horizontal and vertical centers of the page. Page one is the active page. Save your file.
- 3 Create a text box that contains your name. From the drop-down menu, click on **Infinite Cloner**. From the original text box, drag five copies of your name to various locations on the page. Turn off the **Infinite Cloner** by right-clicking on the original, and clicking on the **Infinite Cloner** box to deselect it.



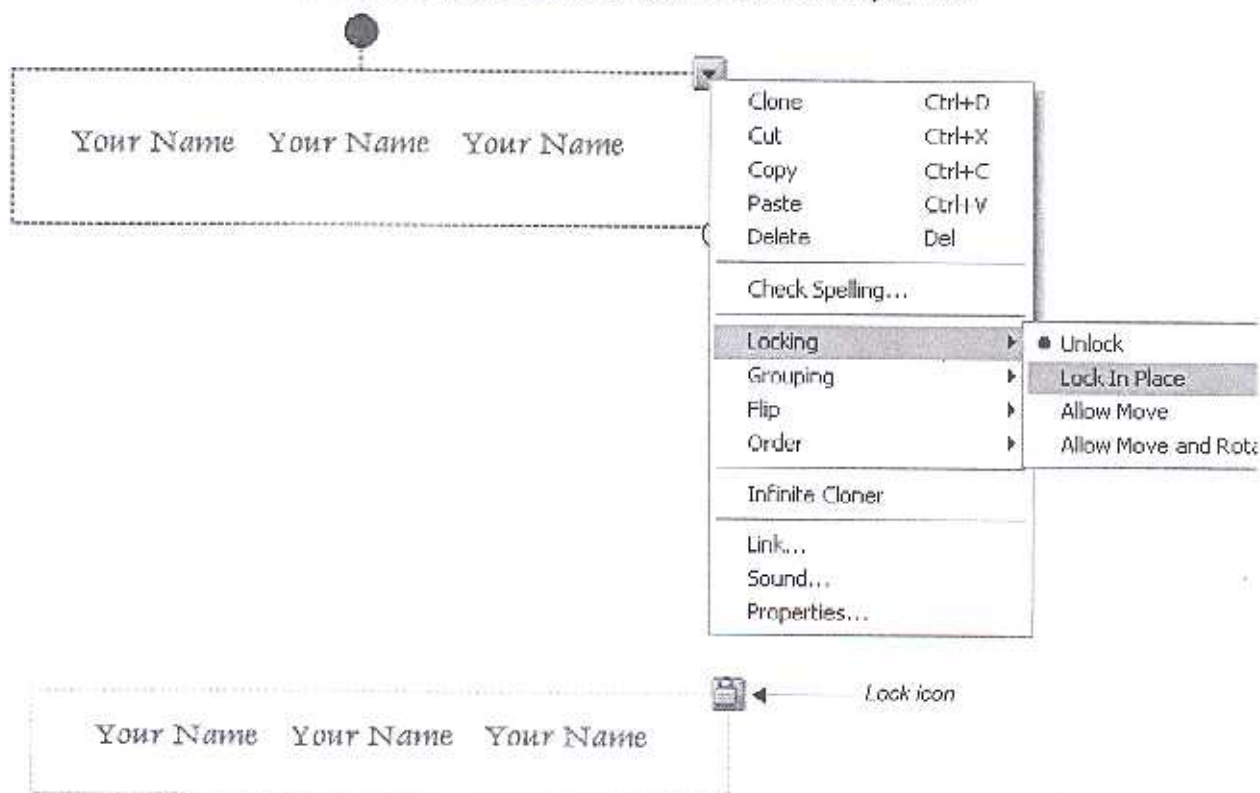
- 4 Align three of your names by dragging them.
NOTE: With the alignment guides on, grids appear to help you align the objects vertically and horizontally.

Your Name Your Name Your Name

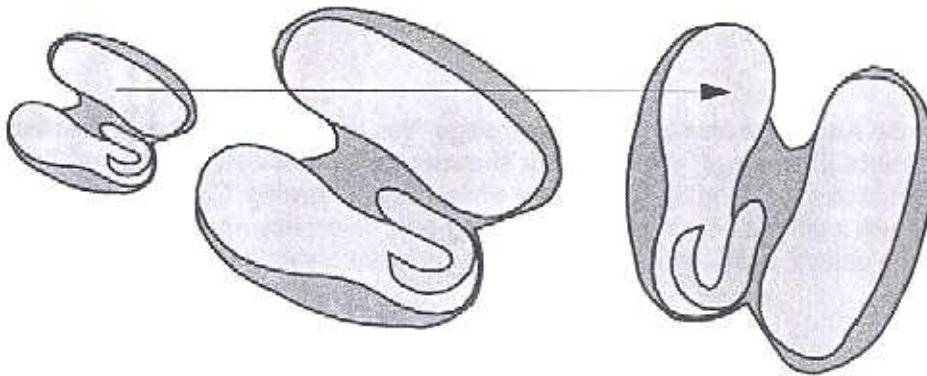
- 5 Hold down the left mouse button, and drag to select all three names. Click on one of the drop-down menus, and click **Grouping > Group**. The three objects are now one.



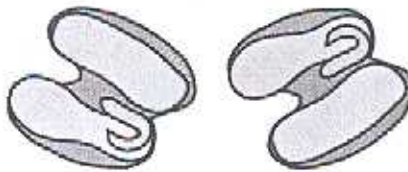
- 6 Click on the drop-down menu, and select **Locking > Lock In Place**. The object is now locked and cannot be moved. If you want to unlock the object, from the Menu bar click **Edit > Select All Locked Nodes**. Then click the locked icon and click **Unlock**. Save your file.



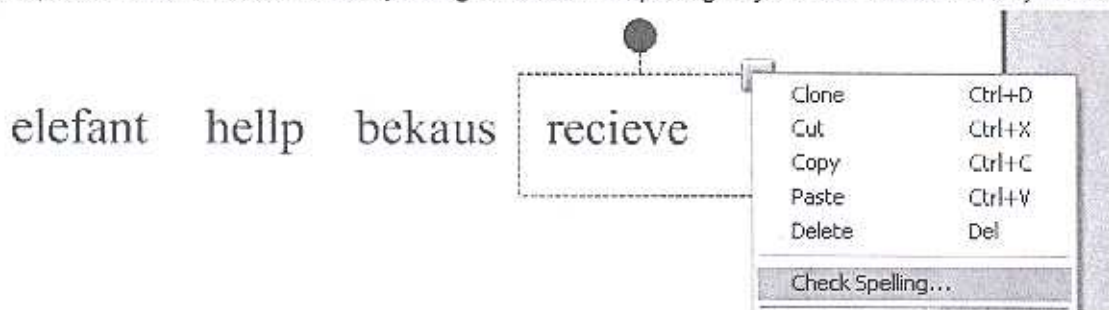
- 7 Click the **Add Page** icon to add another page. You are now on the newly created blank page two. Find a graphic from the Gallery, and drag it to your page. Make the graphic larger by dragging on the clear circle. Rotate the graphic by dragging on the solid circle. Save your file.



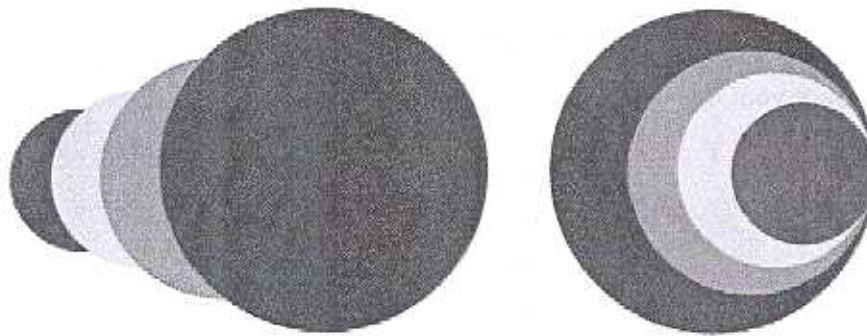
- 8 Click on the graphic and from the drop-down menu, click on **Copy**. Add a page. From the menu bar, click on **Edit > Paste**. Click on the graphic, and from the drop-down menu click **Flip, Up/Down**. Save your file.



- 9 Add another page. Click the **Text Box** icon, and add four text boxes containing the words *hellp*, *bekaus*, *recieve*, and *elefant*. Click the **Select** icon, and click on one of the words. From the drop-down menu, click **Check Spelling**. Correct the spelling of your four words. Save your file.



- 10 Click the **Add Page** icon to add another page. You are now on the newly created page five. Click the **Text Box** icon, turn on the spell checker by clicking the icon. Add four text boxes containing the words *hellp*, *bekaus*, *recieve* and *elefant*. To have the spelling checked automatically, you must tap the space bar at the end of the word to signify the word is complete. If you do not know the correct spelling, you can right-click on the word for suggestions. Save your file.
- 11 Click the **Add Page** icon to add another page. You are now on the newly created page six. Click on the **Create Shape** icon, and draw four shapes of different sizes. Remember, if you want to draw *perfect* circles, hold the Shift key down while you are drawing. Click the Properties tab. Fill each circle with a different color. Practice ordering your objects by moving them so they overlap and then bringing objects to the front or sending objects to the back. Save your file.



- 12 Share your results with your colleagues. Close Notebook software by clicking **File > Exit**.

Creating interactive lesson activities

Where do I start when creating a lesson activity for the SMART Board interactive whiteboard?

Notebook software tools include functions that help you use the interactive whiteboard more effectively and allow you to create engaging, interactive and dynamic classroom lesson activities.

Creating interactive lesson activities

This section is intended to act as a reference for the best practices for creating and presenting lesson activities using Notebook software.

You are already familiar with the basics of Notebook software, such as how to write in the work area, how to add new pages to your Notebook file, how to navigate from one page to another and how to select and move objects on a Notebook page.

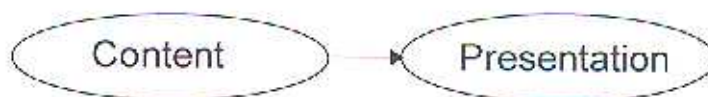
To review the basics of working with a SMART Board interactive whiteboard and Notebook software, visit SMART's training center at www.smarttech.com/trainingcenter.



Before reading the remainder of this workbook, make sure you have the latest version of Notebook software installed on your computer from www.smarttech.com/support/software.

Review of design basics

Lesson activities need to be designed for both content and presentation. The SMART Board interactive whiteboard is a visual and an interactive medium. Knowing a little about design and the best practices on how to integrate interactivity using Notebook software will help you create lesson activities that meet curriculum learning objectives and engage students. Creating content in Notebook software with the knowledge it will need to be presented in a classroom setting will ensure your lesson goes smoothly.



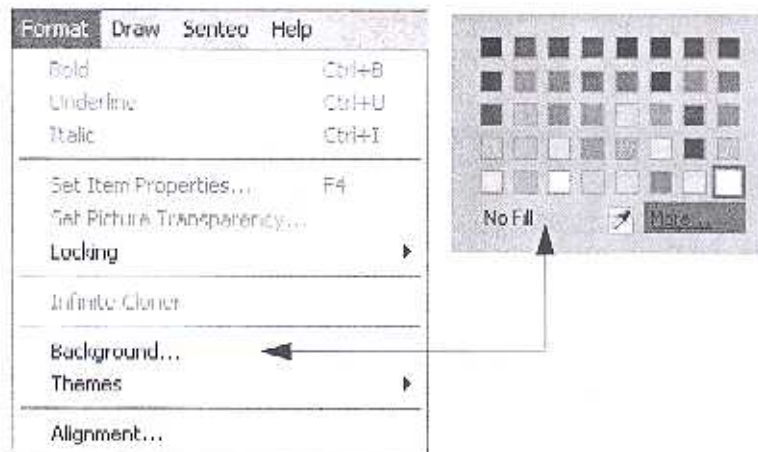
Once you have determined what content you will be teaching, create a title page and write your teacher's notes at the beginning of your lesson activity. Title pages and teacher's notes focus learning objectives and provide important information to any other teachers who use the lesson activity. You can see examples of how other teachers have created these items by downloading any lesson activity from the education solutions website www.education.smarttech.com/stc/en-US/Ed+Resource.

Setting up your page

Once you have an idea for a Notebook software lesson activity, you will need to start designing your page. One of the first things you will want to do is decide on a background color.

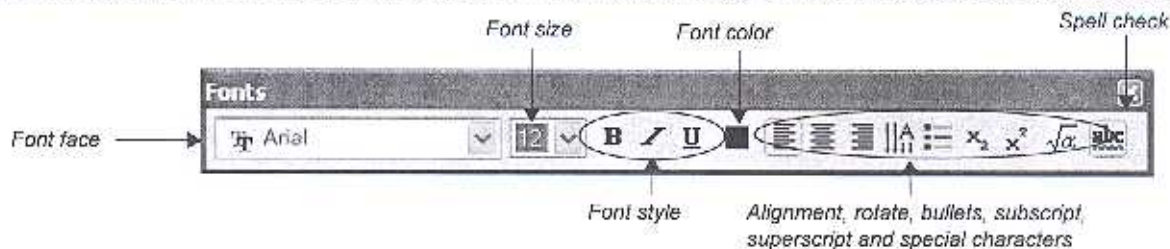
When choosing a color, keep in mind that very bright or intense colors can be distracting and draw attention from the page content to the background. A bright yellow might seem like a fun choice, but it may also distract from other elements on your page. Reserve the most vibrant colors for individual objects on your Notebook page to which you want to draw student attention.

Select a background color by selecting **Format > Background** from the Notebook software menu. A color palette will launch from which you can choose the background color of your Notebook page.



Working with fonts in Notebook software

Next, you should choose the fonts you will want to use for the remainder of your lesson activity. One way to set your font is to select your text and use the functions available from the Fonts toolbar. The Fonts toolbar appears whenever you are typing on the Notebook page or after you double-press a text object.



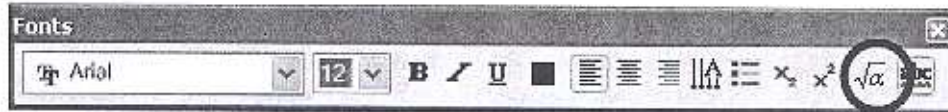
If possible, try using only one font throughout your lesson activity. Too many fonts can be distracting to the eye and draw attention away from important points.

General guidelines for choosing fonts for your Notebook software lesson activity include the following:

- Titles should be at least 28 point and a bold type face
- Text used for sentences and paragraphs should be at least 22 point and in a regular type face
- Make sure the font color you choose is easy to read and see against the background color you have chosen

Math and science symbols

Math and science teachers will find the math and science symbols particularly useful for writing equations or formulas. When you click on the **Math and Science** icon, a series of submenus are revealed. Clicking on each submenu reveals another series of choices. Click on your choice to insert that symbol into your text box.



Click on the Math and science symbols icon to reveal the math and science submenu



Average angular velocity = Angular displacement / time interval
 $\omega = \Delta\theta / \Delta t$

Adding interactivity

One of the benefits of Notebook software is the ability to modify objects on the page. This section will focus on some of the different ways you can engage your students by designing interactive lesson plans.

Reveal

One of the quickest ways to add interactivity to a lesson activity is to hide the answer to a question behind an object on the Notebook page. The following information will provide four different methods that you can use to create reveal activities that can easily be integrated into any curriculum.

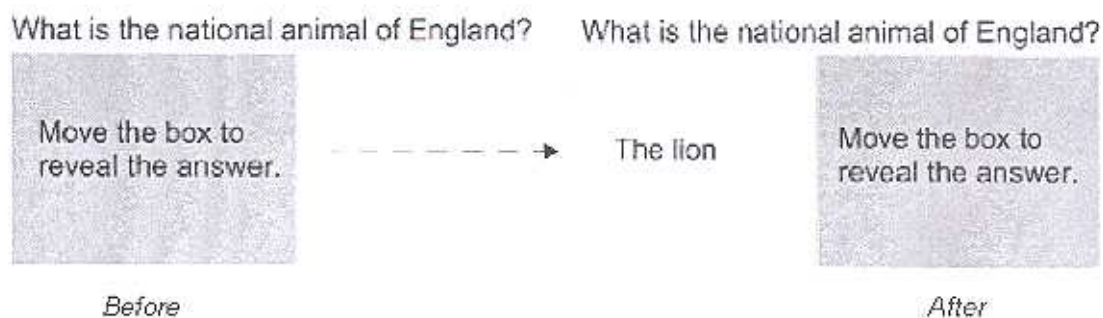
Move and reveal

One way to create a reveal activity is to hide an answer behind another object.

- 1 Type your question and answer
- 2 Draw a rectangle, and fill it with color to hide the answer
- 3 Double-click the shape for the ability to add text to it – ensure your text is a different color than the rectangle
- 4 Type *Move the box to reveal the answer* – you are adding instructions to the shape so students, other faculty members or a substitute teacher will be able to work with the file. Without the instructions, someone might assume they are supposed to write the answer over the shape instead of moving it to reveal the answer.

TIP: It is a good practice to select *Order > Bring to Front* from the drop-down menu on any object you will be using to cover an answer. This action will ensure your students don't see the answer before it is time for it to be revealed

- 5 Move the shape to reveal the answer



Erase and reveal

Another way to reveal information is with the Eraser tool.




- 1 Type your question and answer. Use a pen to cover the answer with digital ink.
- 2 Click on a pen tool. Choose an ink color the same color as the page background. For example, if the page background is white, then the digital ink should also be white.
- 3 Click on the **Eraser** tool, and erase the digital ink covering the answer. The Eraser tool will only erase objects created with digital ink. Anything typed with your keyboard cannot be erased with the Eraser tool.

TIP: You may want to add instructions to let the class or other teachers know that all they need to do is use the eraser.

Complete the number sequence

Use the eraser to reveal the next number in the sequence.

1, 3, 5, 7, 
Before

Complete the number sequence

Use the eraser to reveal the next number in the sequence.

1, 3, 5, 7, 9
After

Order and reveal

Another way to reveal information is by ordering objects.

- 1 Create an object
- 2 Create a second, larger solid object
- 3 Move the larger object over the smaller object, which will be hidden
- 4 When it is time to reveal the smaller object, you can either move the larger object aside or change the order of the larger object to Send to Back

TIP: You may want to add instructions to let the class or other teachers know that all they need to do is move the object.

What is $4 + 4$?



Yellow circle covering red eight

What is $4 + 4$?



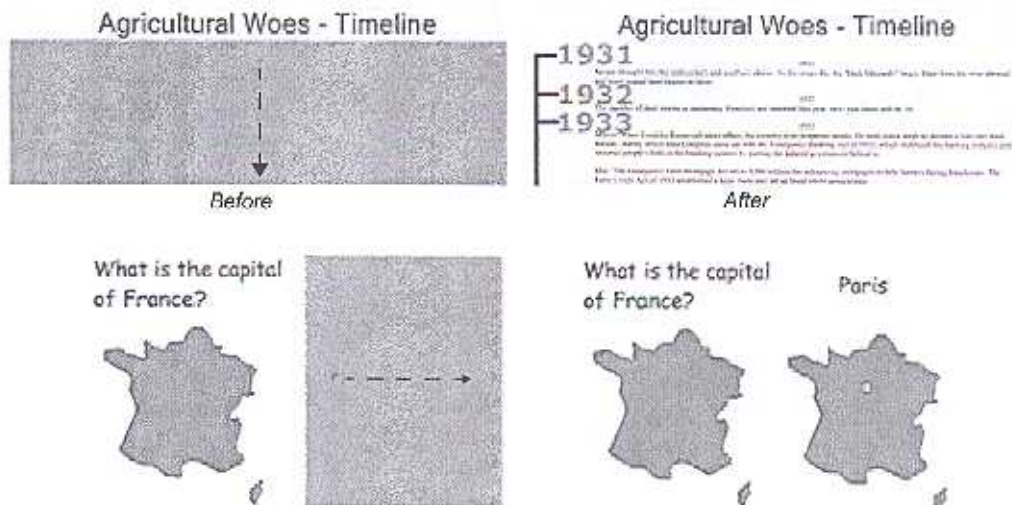
Yellow circle Sent to Back

Screen Shade and reveal

A fourth way you can reveal information is with the Screen Shade tool.

- 1 Type your question and answer
- 2 Click the **Screen Shade** button on the Notebook software toolbar
- 3 Drag the Screen Shade so only the answer to your question is covered
- 4 When you are ready, drag the Screen Shade so it no longer covers the answer. This action is similar to using paper to cover answers that would be displayed through an overhead projector.

TIP: When you open a Notebook file, the Screen Shade will be covering the same area it was hiding, and you will be able to start discussing the content in your file from exactly where you left off.



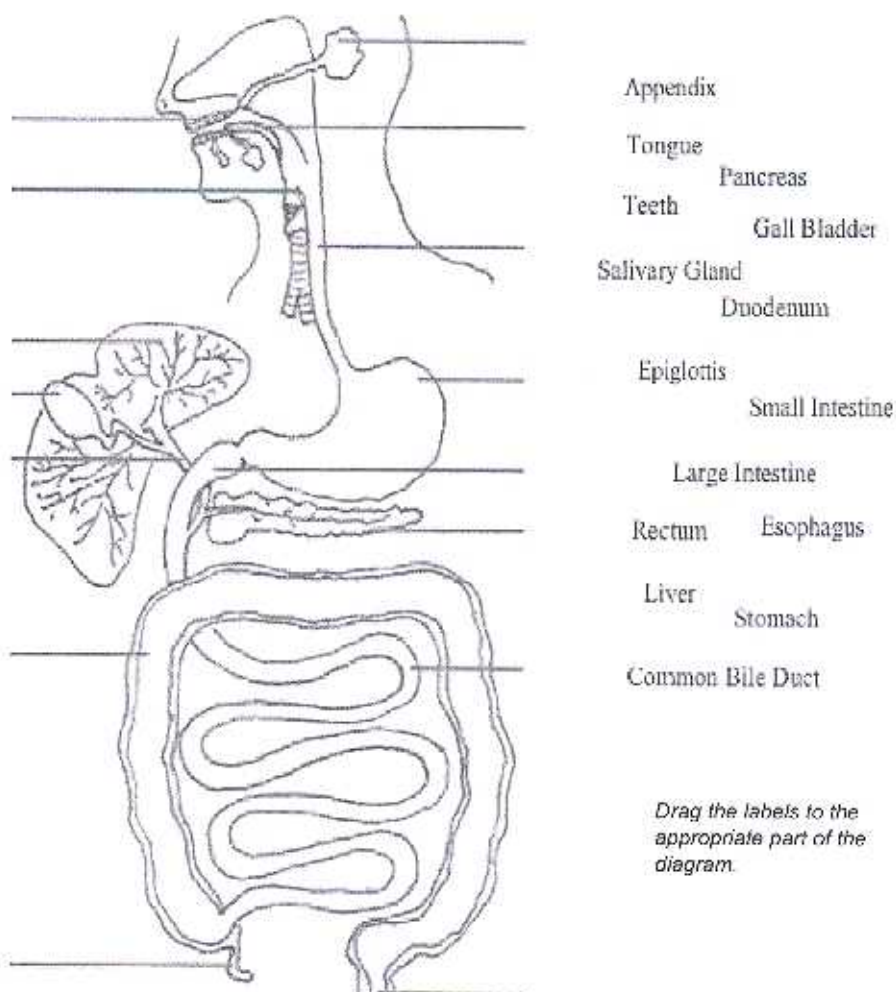
Identify and label

Drag and drop

Drag and drop activities are an excellent way to determine if your class has achieved recognition about specific learning objectives.

To create a drag and drop labeling activity, add the object you want labeled to the work area. The object can come from the Notebook software Gallery, the My Content area or it might be a graphic you imported using the Insert menu. Use the object drop-down menu to lock in place the object that will be labeled. This action ensures the object won't be accidentally moved during the lesson activity.

Next, make the labels for your diagram and line them up at the bottom of the Notebook page. Then you can ask members of the class to drag the labels to the appropriate area of the graphic.



You may want to add a link to an object, such as the diagram of the digestive system above, to another Notebook page with an answer key. This page will help anyone you share the file with find the correct answers.

Drag and drop activities can also be used for text-based lessons. For example, you might drag events to specific dates on a timeline, define a series of words or match information.

Tchaikovsky	Russia	France
Debussy		
Beethoven	Italy	Germany
Chopin		
Haydn	Poland	Austria
Vivaldi		

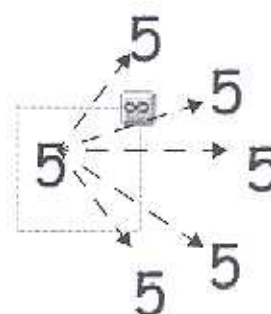
Drag the name of the famous composer to the country of his birth.

Infinite Cloner

The Infinite Cloner allows you to reproduce an object an unlimited number of times, without having to select Clone repeatedly from the drop-down menu. The Infinite Cloner also helps keep your Notebook file's size smaller than if you were to copy and paste the same information, making the file easier to share with your colleagues.

To set an object as an Infinite Cloner, complete the following steps:

- 1 Click on an object
- 2 Click on the object drop-down menu
- 3 Click **Infinite Cloner**
- 4 Click on the object, then drag to create an identical object



Press and drag to create an identical object

Using the same object for multiple answers

One advantage of the Infinite Cloner feature is the ability to create a drag and drop activity without diluting the pool of available options each time a question is answered correctly

$2 + 3 =$	$10 - 5 =$
$5 \times 6 =$	$12 + 15 =$
$9 / 3 =$	$7 \times 3 =$

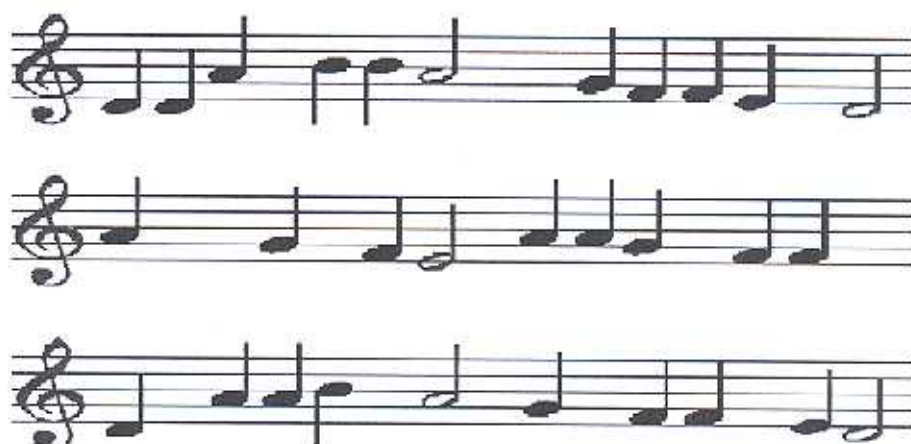
0 1 2 3 4 5 6 7 8 9

Set each number on the number line as an Infinite Cloner

$2 + 3 = 5$	$10 - 5 = 5$
$5 \times 6 = 30$	$12 + 15 = 27$
$9 / 3 = 3$	$7 \times 3 = 21$

0 1 2 3 4 5 6 7 8 9

Use the same number multiple times to answer the questions.



Younger students "fill in the blanks" with infinitely cloned notes, or on blank music sheets, compose songs for their classmates to play



Element	Symbol	Classification
Oxygen		Metal
Hydrogen		Non-metal
Helium		Noble Gas
Lithium		
Boron		
Beryllium		
Neon		
Sodium		
Tin		
Gold		
Silver		
Uranium		
Chlorine		
Carbon		

Drag and drop the symbol and classification to the corresponding element – Metal, Non-Metal and Noble Gas are infinite clones so they may be reused.

Be H Li
O Sn Ag
Ne C He B
Cl U Na Au

Keeping information in context

Another benefit of the Infinite Cloner feature is that it makes it easy to keep information in context. This feature is especially useful for text-based lessons.

How many different words can you make from this word?

shakespeare

- | | |
|----------|----|
| 1. ape | 4. |
| 2. phase | 5. |
| 3. shake | 6. |

Set each letter of a word as an Infinite Cloner. Drag the letter to a different area of your page to create anagrams. The original word will remain in place. You may want to set a timer to make the lesson more challenging. An interactive timer is available from the Gallery Collections.

Magic Pen



The Magic Pen icon from the Notebook software toolbar allows you to highlight parts of your Notebook page in a way similar to the Spotlight tool on the SMART Board interactive whiteboard.

Magic Pen Spotlight

Click on the Magic Pen icon on the Notebook toolbar to activate it.

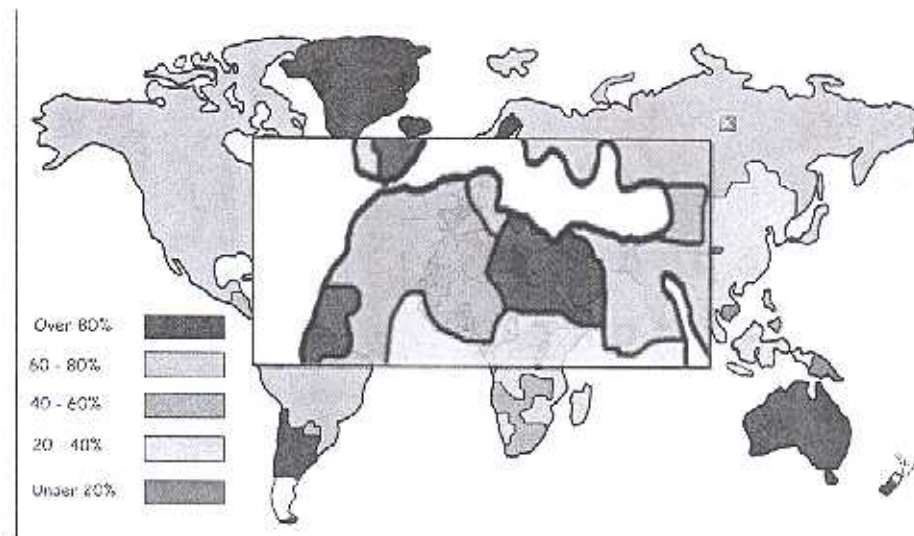
Draw a circular shape on the part of the work area you wish to highlight.

When you move your cursor over the magic shape, it turns into a double-ended arrow. This arrow allows you to make the highlighted area larger or smaller.



Magic Pen zoom

When you use the Magic Pen and draw a rectangle around an area on your Notebook page, it will allow you to zoom into that area.



When your cursor approaches the magic shape, it turns into a hand. This hand allows you to move the magic shape to zoom or highlight a different selection. The double-ended arrow allows you to resize the zoom or highlight area.



To close a magic shape and return your work area to normal, click on the X in the box.

When you write or draw with the Magic Pen, the ink disappears in about 10 seconds. This feature is an excellent way to keep your work area uncluttered. It is also a fine way to offer sequential problem solving clues to a class working on a SMART Board activity. You can use the Magic Pen to warm up the class by playing timed *Brain Gym* type exercises.

When the Spotlight or the Magic Pen are active, teachers can only write on or activate components in the spotlighted area.

Review questions: Designing interactive lesson activities

- 1 What are some ways you can reveal answers to the group?
- 2 How would you use the Magic Pen?
- 3 How do you access the additional math and science symbols?
- 4 How would you use the Infinite Cloner?
- 5 Why is font selection important in creating a Notebook file?

Review answers: Designing interactive lesson activities

- 1 What are some ways you can reveal answers to the group?

Move and reveal
Erase and reveal
Order and reveal
Screen Shade and reveal

- 2 Why would you use the Magic Pen?

Bring attention to one area in Notebook software

- 3 How do you access the additional math and science symbols?

Double-click on typed text and select the math and science symbols icon

- 4 How would you use the Infinite Cloner?

To reproduce an object an unlimited number of times, for instance, in counting activities, graphing exercises, spelling and word games

- 5 Why is font selection important in creating a Notebook file?

Allows for less distraction; keeps the file consistent; allows for everyone in the room to see the text

Hands-on practice: Designing interactive lesson activities

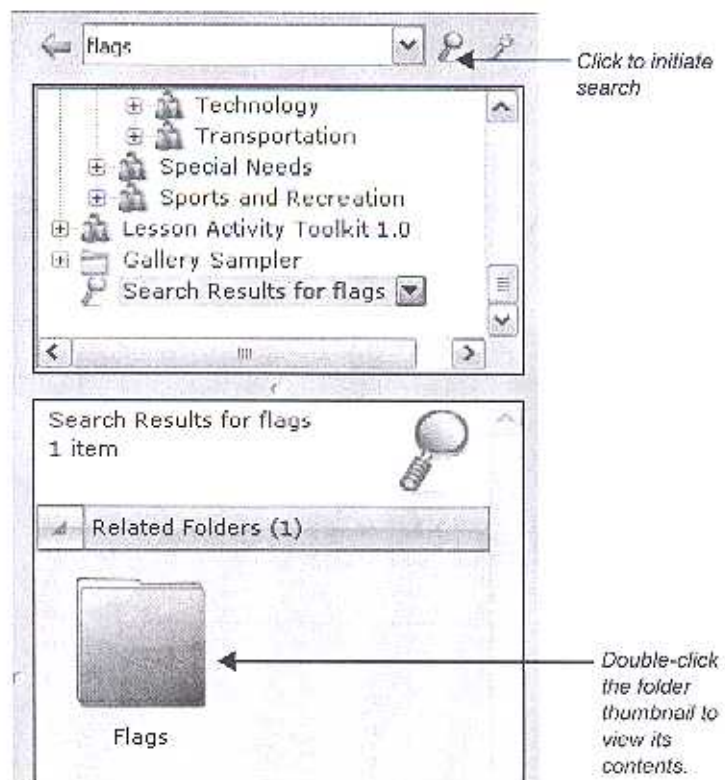
Preparing your lesson

You will prepare a geography lesson activity that asks students to match North American countries to their flags. You can use the concepts outlined in this *hands-on practice* to prepare and deliver lessons in other subject areas.

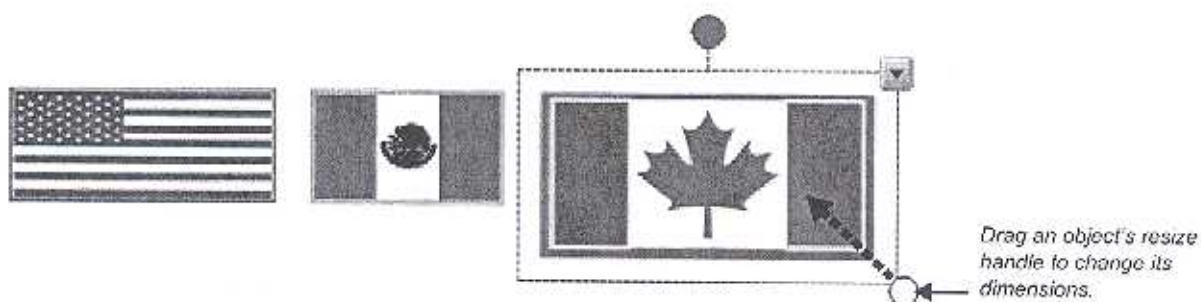
- 1 Open a blank Notebook file
- 2 Click the **Gallery** tab to search or browse collections of SMART's custom pages, clip art, Flash animations and video files. For this example, you search for flags of North America.

TIP: Deselect the **Auto-hide** check box to keep the Side Tab visible. This action will provide you with easy access to the Page Sorter and Gallery tabs as you prepare and deliver your lesson.

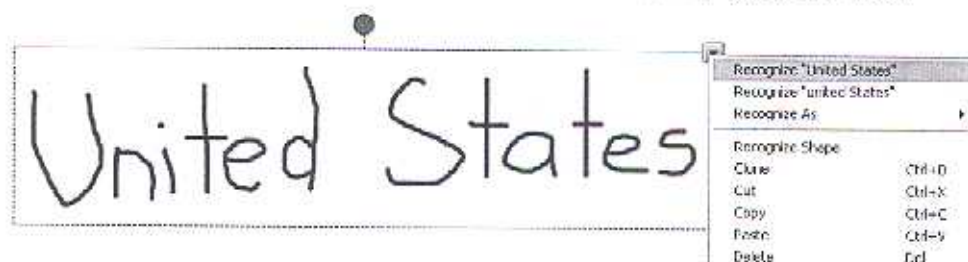
- 3 Type the keyword *flags*
- 4 Click the **Search** icon, which is the large magnifying glass, to initiate your search.
- 5 Notebook software displays your search result(s) as a thumbnail image matching your search criteria. In this example, a folder named *Flags* will appear.
- 6 Double-click the folder thumbnail to view its contents
- 7 Scroll through the Gallery collection to find flags for the United States, Mexico and Canada. Drag each flag to the work area of your Notebook file. You can double-click the flag's thumbnail image to quickly add it to your work area.



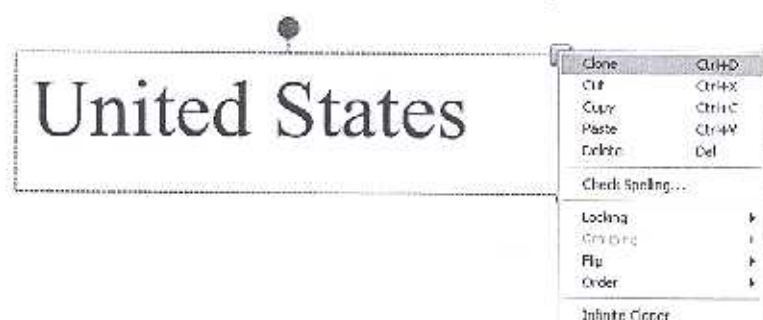
- 8 Resize each flag by diagonally dragging the resize handle. Ensure the flags are approximately the same size.



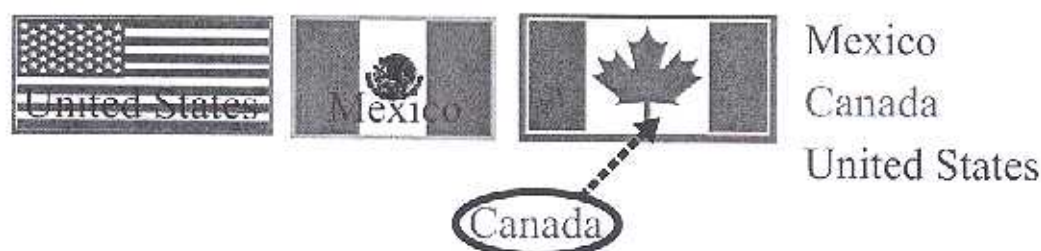
- 9 Align the flags horizontally
- 10 Write the name of each country in a different color
- 11 Click *United States*, for example, and choose the appropriate typed text from the object's drop-down menu. Convert Mexico and Canada from handwritten to typed text also.



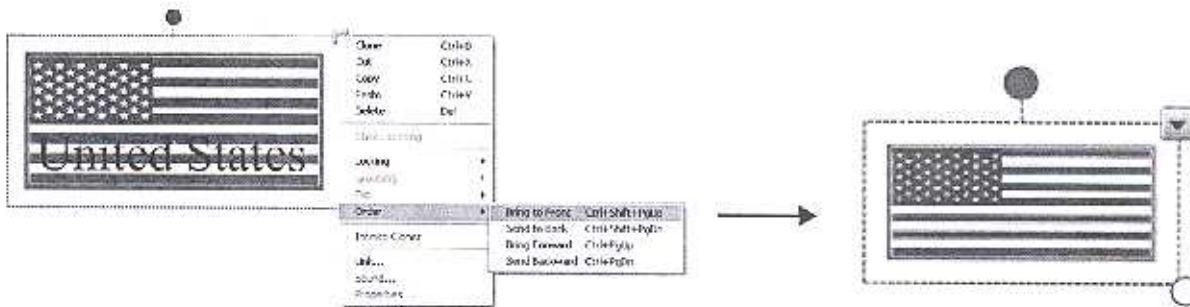
- 12 Click **Clone** from the object's drop-down menu to make a copy of the name of each country. There should be two country names for each flag.



- 13 Organize the names of each country so that one set of country names is placed in a vertical line on your work area. Drag the other country names over their corresponding flags.



- 14 Click the United States flag, for example, and choose **Order > Bring to Front** from the object's drop-down menu to cover the name *United States*. Complete this task for the Mexican and Canadian flags.



The United States flag is positioned behind the typed text.

The United States flag is now positioned in front of the typed text.

- 15 Click **File > Save** to save your Notebook file. Give your Notebook file a name, and choose the location where you want to save it.

Using your lesson in the classroom

After opening your saved Notebook file on the SMART Board interactive whiteboard, ask your students to drag the name of each country underneath its corresponding flag. Once the exercise is completed, remove the flags to reveal the correct answers.

TIP: Select a fun setting from the Creative pen menu to add check marks to correct answers.

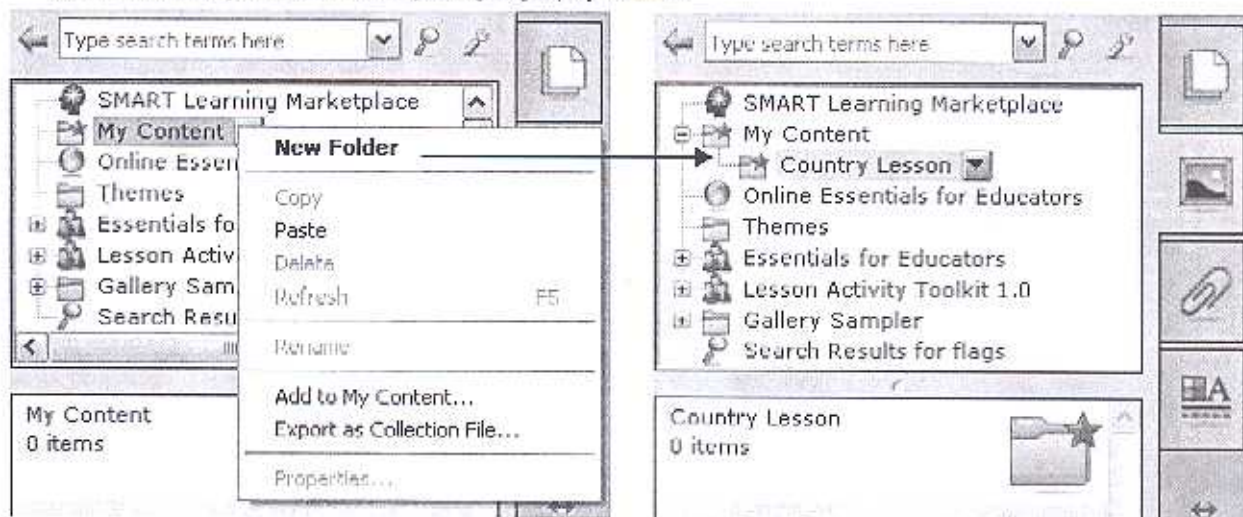
You can add as many pages to your Notebook file as you need to create additional lesson activities, such as labeling continents or identifying capital cities on regional maps.

Preparing your lesson: Advanced features

The My Content area is a Gallery collection reserved specifically for objects and lessons you have imported, captured or created, such as the lesson you just finished preparing. It's also a good place to store objects and lessons you use frequently or want to share with your colleagues.

- 1 Open your geography lesson
- 2 Click on the **Gallery** tab. By default, the My Content folder is selected.
- 3 Click the My Content drop-down menu and choose **New Folder**

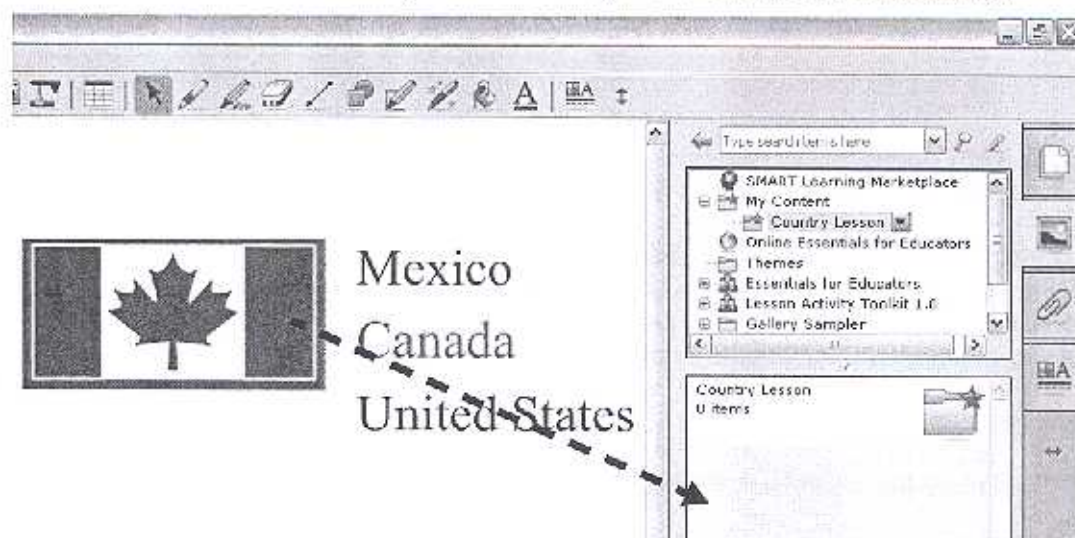
- Launch the On-Screen Keyboard and type *Country Lesson*. You have now created an area where you can store all objects related to your geography lesson.



Create a new folder.

Your new folder called *Country Lesson* appears under *My Content*.

- Drag each flag and country name into your new Gallery collection. Your new Gallery collection now contains nine individual Gallery items – one flag and two names for each country.



- Select the **Page Sorter** tab. Insert a blank Notebook page by clicking the **Add Blank Page** icon on the Notebook software toolbar.
- From the Shapes drop-down menu on the Notebook software toolbar, select the square. Position your cursor on the left side of your work area and draw a large rectangle.
- Click the **Select** tool from the Notebook software toolbar. Fill the rectangle with color by selecting the rectangle, then choosing **Properties** from the object's drop-down menu.
Tip: Alternately, you could change the rectangle's properties by using the Properties tab.

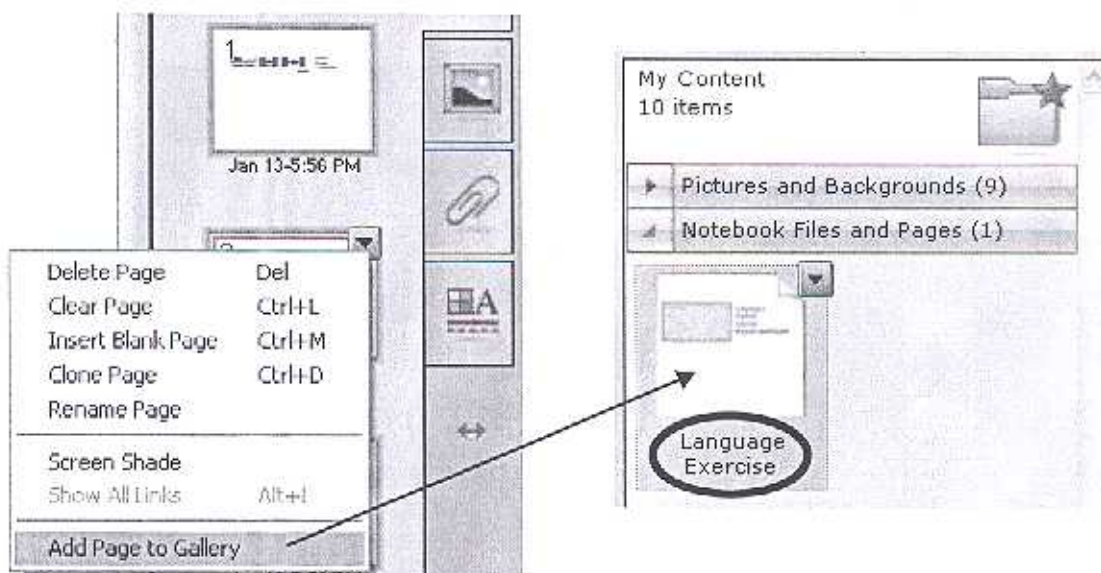


- 9 To the right of the rectangle, write or type *Languages:* and below this write or type *English, Spanish, English and French*



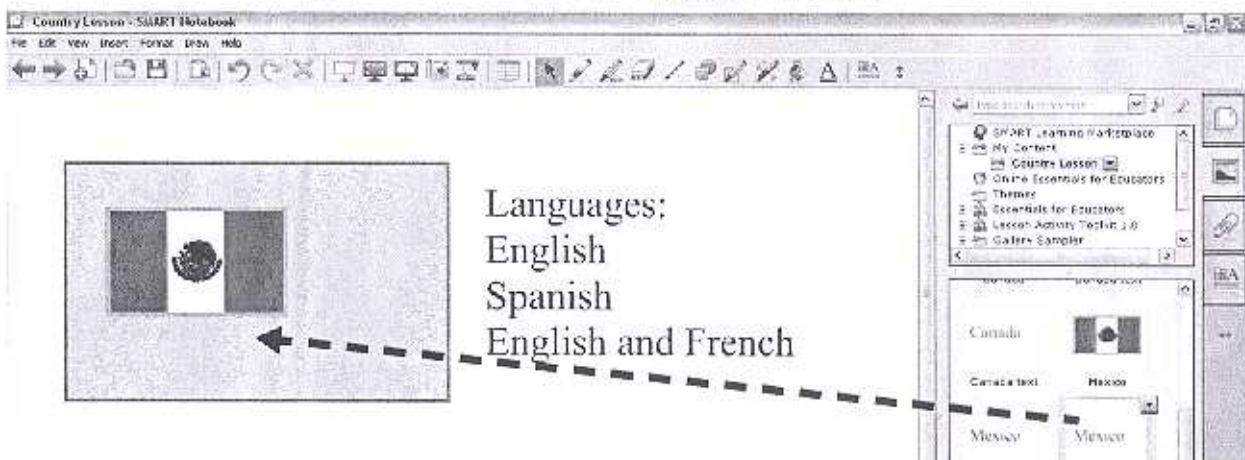
Languages:
English
Spanish
English and French

- 10 Press the page thumbnail's drop-down menu in the Page Sorter tab. Select **Add Page to Gallery** to place the entire Notebook page into the My Content area of the Gallery Collections. This action gives you quick and easy access to Notebook pages for lesson planning and delivery.



TIP: Name your new Notebook page *Language Exercise* so you can organize your Gallery items into meaningful groups.

- 11 Drag the Mexican flag from the My Content area to the top-left corner of the rectangle you created in step seven. Then drag the word *Mexico* to sit directly below the flag.

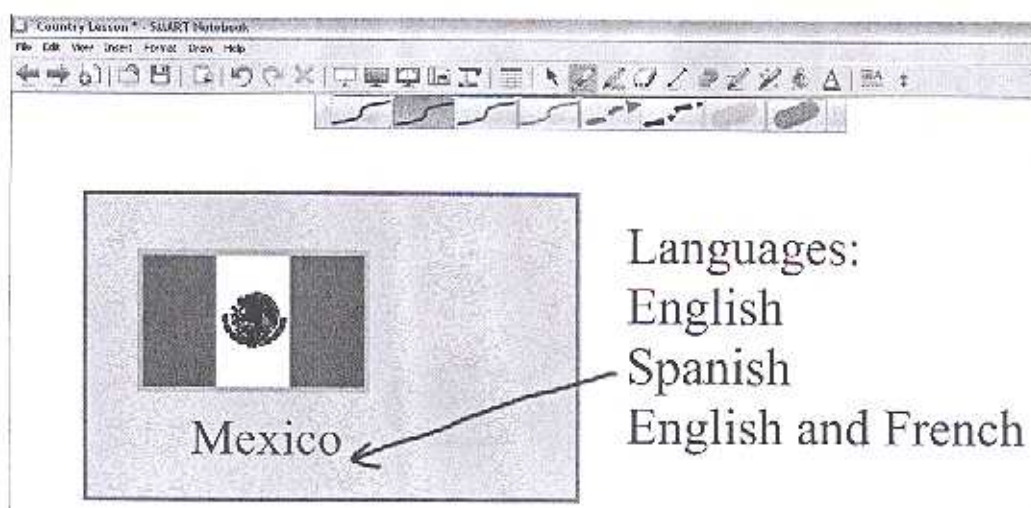


- 12 Drag the Language Exercise page you created in step 10 to the work area of your Notebook file. This action will automatically insert a new Notebook page directly after the active Notebook page.
- 13 Repeat steps 11 and 12 using the Canadian and United States flags and associated text
- 14 Press **File > Save** to save your Notebook file

TIP: Share your geography lesson with other colleagues using the SMART Board interactive whiteboard in the classroom. Select **Export as Collection File** from the My Content drop-down menu to distribute your electronic file.

Using your lesson in the classroom

Invite your students up to the SMART Board interactive whiteboard to draw an arrow from the language text to the corresponding flag using the Line tool or a pen tool from the pen tray. You can hide the correct answers behind the rectangle or flags.



Explore the possibilities

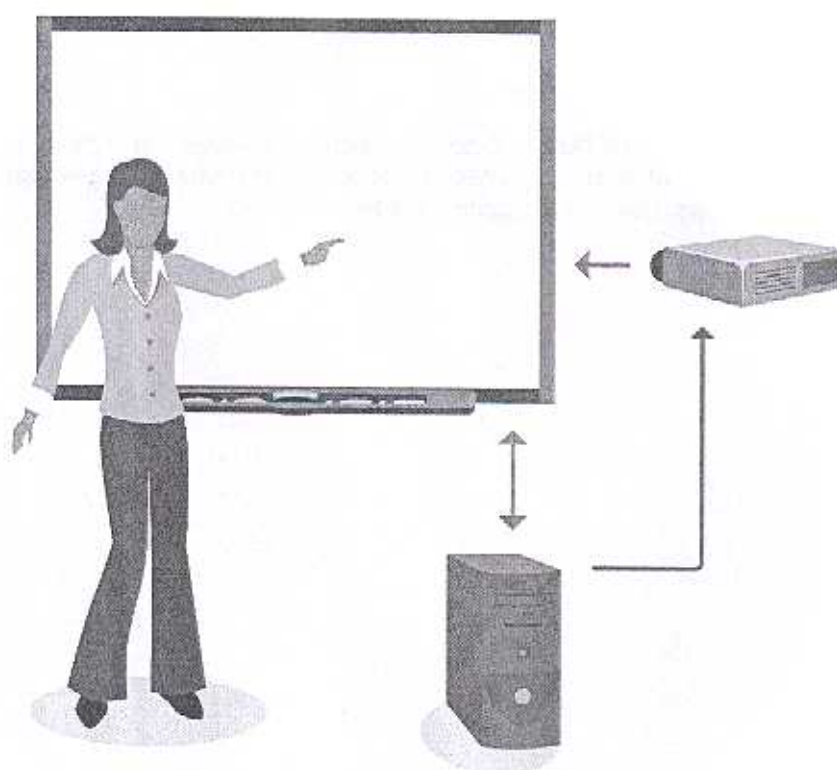
Why and when would I use an interactive whiteboard in my classroom?

Interactive whiteboards and their collaborative learning software have many strengths in the classroom. This section explains what an interactive whiteboard is and what its advantages are over traditional and other digital mediums. General usage tips are also outlined.

Understanding the interactive whiteboard

Each brand of interactive whiteboard operates a little differently but they all have some core similarities. All interactive whiteboards get their information from a computer and their image from some type of projection system, either rear or front projection. Each interactive whiteboard has some means of recording where you are pressing on the screen. Some interactive whiteboards register the pressure of your touch on the screen. Other interactive whiteboards use electromagnetic technology that is housed in special pens and read by the board. Several others use a camera system that sees where your finger or stylus is on the board. Whichever way the interactive whiteboard senses your input, this information is fed back to the computer, which uses that input to navigate through digital information the same way that clicking your mouse does.

Essentially, anything you would do with your mouse on a computer screen, you do with your finger or a special pen on an interactive whiteboard.



An interactive whiteboard can do anything a computer can do

Because an interactive whiteboard is just another way of seeing and controlling what is on your computer, you can do anything on it that you can do on the computer it is attached to. The same software can be loaded, used and saved. A wireless keyboard can be attached so that you can type. You can also navigate the Internet and play video, sound and other multimedia.

Interactive whiteboards add some functionality to your computer

Interactive whiteboards also add some extra functionality to your computer, or rather the collaborative learning software that comes with your interactive whiteboard adds functionality. All interactive whiteboards are set up to make it easy to write or take notes on top of your other applications or in specialized note-taking software that may be provided with your interactive whiteboard. Many interactive whiteboards recognize the text you write and turn it into typed text. Some interactive whiteboard providers incorporate software that allows you to input handwritten text or drawings into your favorite software applications such as Microsoft Word or Excel spreadsheet software.

Integrate with other technology

Many users don't realize that you can also seamlessly use additional technology such as DVD players, document cameras and video cameras with some interactive whiteboards, much as you would with a television.

What you can do depends on the interactive whiteboard provider

One of the biggest factors separating the various brands of interactive whiteboards is the quality of the software and teaching resources they provide. In discussions pertaining to interactive whiteboard use in the classroom, we will be assuming the use of high-quality collaborative learning software that is designed to support the easy creation of interactive whiteboard lessons. As a result, there may be some suggestions mentioned in this module that your brand of interactive whiteboard is not able to accomplish or accomplish easily.

The interactive whiteboard's role in the classroom

An interactive whiteboard with collaborative learning software has a number of major strengths that make it a wonderful tool in the classroom.

Use an interactive whiteboard for the following:	Some advantages of doing these tasks on an interactive whiteboard are the following:
<ul style="list-style-type: none"> • Whole-class teaching • Demonstrating an activity before students begin independent work • Introducing and generating excitement about a new topic • Writing notes that can be saved and printed or posted to a class website • Idea generation and concept-mapping • Reviewing and revising at the end of the day or unit • Showing a video and annotating on top of it 	<ul style="list-style-type: none"> • Teachers can be more flexible with their presentation of material • Students can be involved in active full-class activities • Images and multimedia can be easily integrated • Past work can be easily pulled up and revisited • Lessons and notes can be saved and printed • It is easy for all students to see • Teachers can do more with their full-class lessons using less prep time

Some teachers also use the interactive whiteboard and collaborative learning software for the following:

- Classroom management (taking attendance, timing breaks)
- Displaying assignment information for students to reference as they work at their desks

Interactive whiteboards are great tools for the classroom, but like any other tool they should be used only when it is effective to do so. There is no need and probably no advantage in asking students to spend all day in front of the interactive whiteboard. While the interactive whiteboard is an excellent tool for many classroom activities, it is best to leverage whole-class interactive whiteboard use with other activities, just as you would in a classroom without an interactive whiteboard.

Best content for exploration on the interactive whiteboard

Any type of curriculum content for any subject can be explored on an interactive whiteboard, but some content makes more sense than others. Below are some general guidelines for getting started.

An interactive whiteboard with collaborative learning software is an excellent choice for the following:	An interactive whiteboard makes a poor substitute for the following:
<ul style="list-style-type: none"> • Showing a video – An interactive whiteboard is better than a television because you can take screen shots of a video and build lessons around it. You can also pause and annotate over a video to highlight information. • Content that is highly visual and difficult to explain without images • Content that is too dangerous, inaccessible or hard to see in real life • Writing lecture notes that you can save and print later. This ability also saves teachers from having to wait for students to finish copying so they can erase the board and keep writing. • Lessons where objects need to be manipulated such as a classification exercise or coin-counting exercise, but it would be too time-consuming or hard for the whole class to see with real objects. • Content that is abstract but that you want to make more concrete through use of simulations or Flash animated learning objects • Interacting with schools or guest speakers in another part of the world 	<ul style="list-style-type: none"> • Real science experiments • Live visits from guest speakers • Field trips to accessible destinations • Art using real materials. However, it is excellent for art history and art theory. • Music using real instruments, but it is excellent for theory and history. • Individual use of manipulatives • Physical activity such as recess • Learning to print with a pen and paper

Lesson design

How do I design a lesson that enables effective teaching using an interactive whiteboard?

This section explores the relationship between traditional instructional design practices and engaging, effective lesson activities designed for the interactive whiteboard

Instructional design basics

Planning any lesson activity involves thinking about what content you want students to explore and how to present that content in a way that is meaningful, engaging and effectively achieves student learning outcomes. Today's classrooms are diverse and challenging. Good teachers take many factors into consideration when designing their lessons. It is the consideration of these factors in lesson development that we refer to when we use the term instructional design.

What's different about instructional design for interactive whiteboards?

The interactive whiteboard is a digital, visual medium that shares many qualities with a screen and digital projector. Part of what makes instructional design for interactive whiteboards different from traditional instructional design, or lesson planning, is dealing with this highly visual, digital medium – avoiding *Death by PowerPoint*, as they say.

What sets an interactive whiteboard apart from a screen and digital projector however, is its capacity for interactivity. A large part of this reference guide deals with understanding and taking full advantage of the unique strengths offered by interactive whiteboarding technology.

This section is intended to be a reflection of the best practices you already know and incorporate into your lesson development, through the lens of interactive whiteboard use. Knowing a little about design for a visual medium, and some best practices for how to integrate the strengths of an interactive whiteboard into your lessons, will help you create engaging, meaningful lesson activities that meet curriculum learning objectives and save you time as a teacher.

The following principles of good lesson design, as they apply to interactive whiteboard lessons, will be discussed:

- Convey content clearly
- Target student age and ability
- Enable active student participation
- Cater to multiple learning styles
- Consider special needs
- Involve the entire class
- Scaffold students into other activities
- Encourage further inquiry
- Enable assessment of learning objectives
- Allow review and reflection

Convey content clearly

Conveying content clearly becomes a highly visual issue when presenting a lesson on an interactive whiteboard. To convey information clearly you'll want to remove distractions, make sure text is easy to read and ensure lesson activities are clearly explained. The following section will give you a place to start with designing clear, attractive lessons.

Give your lesson a title page

Once you have determined what content will be taught in this lesson, create a title page and include a section of teacher's notes at the beginning of your lesson activity. Title pages and teacher's notes focus learning objectives and provide important information to a substitute teacher or any other teachers that might share the lesson activity.

Consider your background color

When choosing a background color, keep in mind that very bright or intense colors can be distracting and draw attention from the page content. A bright yellow might seem like a fun choice, but it may also distract from other elements on your page. Reserve the most vibrant colors for the individual objects on your interactive whiteboard page to which you want to draw student attention.

Although a white background is typically the default option, you may wish to consider an off-white or pastel color as a background for your lesson. A bright white reflects a lot of glare and can be hard on some students' eyes.

Select fonts appropriately

When you are choosing a font, you are choosing how your text will appear on the interactive whiteboard. Each font has a personality, and some are easier to read than others. For example, Times New Roman, Comic Sans and Arial all look very different.



Times New Roman



Comic Sans



Arial

If possible, try using only one font throughout your lesson activity. Too many fonts can be distracting to the eye and draw attention away from important points.

Using too many fonts can make your **lesson** activity difficult to read.

Use fonts that are installed on your interactive whiteboard's computer

Your computer comes with a small number of default fonts. Installing certain programs adds more fonts to that list. New fonts can also be chosen and downloaded from websites that specialize in providing or selling unusual fonts. Some fonts are specific to either Macintosh or Windows operating system platforms, while others can be used on both.

As a result, some fonts are common to just about any computer, for instance Arial and Times New Roman, while others might be on your computer but nowhere else. You will need to use caution when using unusual, non-standard fonts in your lesson, otherwise you may experience a frustrating message telling you that the font you used on the amazing lesson you created at home cannot be found. This occurs because font information is stored on each computer and only referenced, not stored, by the interactive whiteboard software you use. To avoid this complication, use only common fonts in your lesson development. If you find an unusual font that you can't live without, install it on both your home computer, if you create lessons at home, and on the classroom computer that the interactive whiteboard will be using.

Never sacrifice clarity for style

Consider the size and color of text you will be using throughout your lesson activity. Always think about the student at the back of the class. It may be hard to tell whether your text is big enough or clear enough when you're creating it at your personal computer. A projector will enlarge your text but chances are good that your students won't be as close to the interactive whiteboard as you are to your personal computer screen. Stand back from your computer monitor to gauge clarity or test-drive your lesson on an interactive whiteboard. If in doubt, always choose clarity over style. Once you have decided what your text will look like, make sure you keep it consistent to give your lesson a nice flow from one page to another.

General guidelines for choosing fonts for your interactive whiteboard lesson activity include the following:

- Titles should be at least 28 point and a bold type face
- Text used for sentences and paragraphs should be the same font as the header, 22 point and in a regular type face
- Make sure the font color you choose is easy to read and see against the background color you have chosen

Fonts like this may look nice, but consider where you use them. Titles and fun games are fine, but do you want to convey an important fact in such a distracting, hard to read font?

Use an age-appropriate font

Reading different types of print is actually a skill that develops over time. Primary grade children who are just learning to read and write may find it easier to read a font where the letters more closely resemble those they are being taught to print. The lower case a of typed print tends to be the most confusing for very young children. Serif fonts such as Times New Roman are also confusing for children because the letters are shaped differently from those they print in the classroom. Teachers of very young children may find it helpful to find the perfect font by downloading one that closely resembles handprinting from one of the many websites that offer fonts for free or for a charge. However, be sure to install this font on both your home computer, if you create lessons at home, and on the classroom computer that the interactive whiteboard will be using to avoid missing font errors.

Don't be afraid to start a new page

One of the nice things about interactive whiteboard lessons is that you don't have to feel guilty about using a lot of pages to present your information. For maximum clarity, keep your lesson design to one idea per page. As soon as the page starts to fill up with content, break the information into two simpler and easier to read pages.

Be wary of overly text-heavy pages

Pages that are crammed full of text are difficult to read and, let's face it, boring to look at. Limit text to a maximum of five bullet points per page, or three for young children, and be as concise as possible with your text. Not every word that you will be speaking about needs to be on the page. If possible, lighten your lesson up with some images or interactive elements. If the type of content you are dealing with is not conducive to images, or if you'd rather not spend time on them, consider using color to separate and define your page. The image included in the following section is an example of lesson layout using graphic elements rather than images.

Consider developing consistent themes

Consistent layout of your lesson from page-to-page lets the viewer know where to look for information. Additionally, the random or unattractive placement of objects distracts many viewers from focusing on your important content. You don't have to be a graphic designer to make a lesson that is clear and easy on the eyes. Here are some tips.

The diagram shows a lesson page layout with several annotations pointing to specific elements:

- Titles and subtitles help to define the topic.** Points to the 'Title' area at the top.
- If you choose to use navigation buttons, keep their location consistent from page-to-page.** Points to the 'Back' and 'Next' buttons.
- The same easy-to-read font is used throughout. Font size is large and contrasts well with background colors.** Points to the text 'You may wish to use separate zones on your page that are obvious to the user, such as instructions.'
- Layout is simple and attractive.** Points to the overall structure of the page.
- Color is used sparingly and effectively. Color separates and draws attention to elements without being distracting. The same color scheme is used throughout.** Points to the 'Questions' and 'Activity boxes' sections.
- Simple symbols instantly indicate the type of information a viewer can expect to see there.** Points to a question mark icon and an exclamation mark icon.

Additional text on the page includes:

- Back** and **Next** navigation buttons.
- Title** area.
- You may wish to use separate zones on your page that are obvious to the user, such as instructions.**
- Questions** section with a question mark icon.
- Activity boxes** section.
- Consider using a color coded theme for different subjects so that students know right away that "this is math time".**

When you have developed one page that you are happy with, copy or clone that page and use it as a basis for the other lesson pages. This will save you time by preventing you from arranging things on each page. It will also keep your layout from appearing as if it jumps around when you switch from page-to-page.

Make links obvious and relevant

Inserting a link into your lesson gives the computer the information it needs to bring up another document, a different page in your lesson, a video or a website on the Internet. Some interactive whiteboard software offers you the option of making an object into a link or displaying the link as an additional icon that you can touch to activate. Setting up your link so that it is activated when you touch an object is useful for making navigation buttons or creating an activity where a reward screen opens if the correct object is touched. It is also useful to set your actual text as a link, rather than a separate icon near the text, if you want the link to more closely resemble text links that appear on webpages.

Whichever style of link you choose, ensure that it is obvious to any user, not just you, the creator. Making links easy to identify helps if you want to reuse a lesson at a later date. It's also easier for substitute teachers, students or others who use the lesson to find the link. To make your link obvious, preface it with an instructional statement such as *Click here to view a virtual tour of Tutankhamun's tomb*. Create navigation buttons that look like buttons and have text on them to say what they do, for instance, *back*, on a button that links to a previous page in the lesson. If you've made text into a linking object, change the font to blue and underline it. This action makes it appear like the more familiar webpage text link.

Effective object links

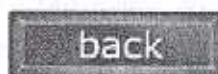
Click the image to view a virtual
tour of Tutankhamun's tomb



Image used as an object link with an instructional statement to locate it for the user

The discovery of Tutankhamun's tomb by Howard
Carter in 1922 was considered one of the most

Text used as an object link and formatted to look like a familiar webpage text link



Effective navigation buttons look like buttons and incorporate instructional text

Check your lessons after you've created them to make sure that all of the links go where you want them to go. If you are linking to another page in your lesson, make sure there is a *back* button to return to where you started so that the flow of your lesson is not disrupted. If you are using a lesson that someone else created or that you created some time ago, it is a good idea to check the links to confirm that they still lead to active websites.

Use interactive and multimedia content judiciously

Multimedia elements are a popular way to integrate content to your lesson activities and appeal to different learning styles. These tools are a good supplement to any lesson, but should be used with some restraint. Filling every page with animations, videos and sound can distract students from the learning objectives and direct their focus to the technology instead of to the content of your lesson.

Use and experiment with all the tools available to you, but make sure you know why you are using a specific tool – to meet a learning objective.

Target student age and ability

Effective teachers design lessons that are targeted appropriately to the age and ability of the students they are teaching. This is easier said than done because there is typically a wide range of abilities in the classroom. Additionally, the teacher may not always correctly anticipate how much background knowledge a group of students have about a topic. This section outlines some ideas about how to take advantage of the added flexibility of teaching on an interactive whiteboard to better target the abilities and previous knowledge of students.

Make a note of prior knowledge and lesson objectives

Add a section to the teacher's notes at the beginning of your lesson that outlines the background knowledge students have prior to beginning the activity, and specific learning objectives your lesson will target. Including this information in your lesson file helps focus your attention on these ideas while you are developing your lesson content. It also provides important background information to substitute teachers or any other teachers with whom you may wish to share your lesson activity.

Take advantage of added flexibility

When you are planning and building a lesson, it may be necessary to make certain assumptions about the ability level and prior knowledge of the students. Pre-lesson assessments such as pre-tests and KWL charts (Know, Want to know, Learned) are wonderful ways to minimize the assumptions you'll have to make in future lessons. These types of pre-lesson assessments can easily be done on the interactive whiteboard and saved for reference later in the unit.

A major advantage of interactive whiteboard use is their flexibility. If a teacher is in the middle of a lesson and he realizes that he's misjudged student ability or prior knowledge, he has the ability to draw on all the resources of the World Wide Web or the content from his interactive whiteboard provider to spontaneously provide background for his lesson. Pausing your planned lesson to pull up a search engine or a website that you've previously identified and attached to your lesson is an excellent way to explore and build a foundation for a topic before continuing with a lesson. Not only does this lesson flexibility ensure that all students have a solid base on which to build further content, but it demonstrates to students how they can take action when they don't fully understand a topic or assignment.

Give students access to information outside of class

Conducting lessons on an interactive whiteboard offers the flexibility of easily printing lesson materials or posting them to a class website. This approach makes content available to students who missed class or who will benefit from extended access to material.

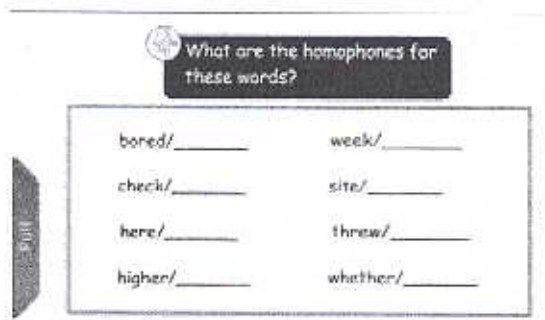
Consider literacy

If students in your class have low levels of literacy, consider using visuals such as images, videos or diagrams to make your point. Leave text to play a supporting role. Incorporating visuals is an area where using an interactive whiteboard to teach has major advantages. When evaluating the literacy of your class, don't forget about special-needs students and students for whom the language of instruction is not their first language. Using visuals is also a great way to teach language literacy because it relates the words you are speaking and writing to a visual representation that students can identify.

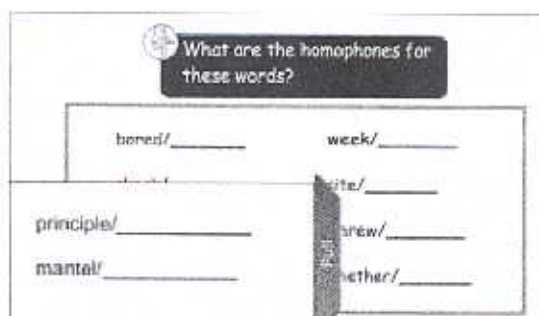
Differentiate instruction seamlessly

The interactive whiteboard allows for easier integration of differentiation strategies within a lesson. Several different levels of activities can be prepared and organized in advance, allowing teachers to spontaneously select the one that seems most appropriate during the lesson. Teachers can also offer different levels of questions to particular students based on their ability, without it being obvious that some students are getting easier questions. Pull tabs are another good way to store information of varying difficulty and display it as needed. Using hide-and-reveal strategies in lessons also allows you to change the level of difficulty by keeping supplementary information hidden unless it is needed.

Pull tab information stored



Pull tab information revealed

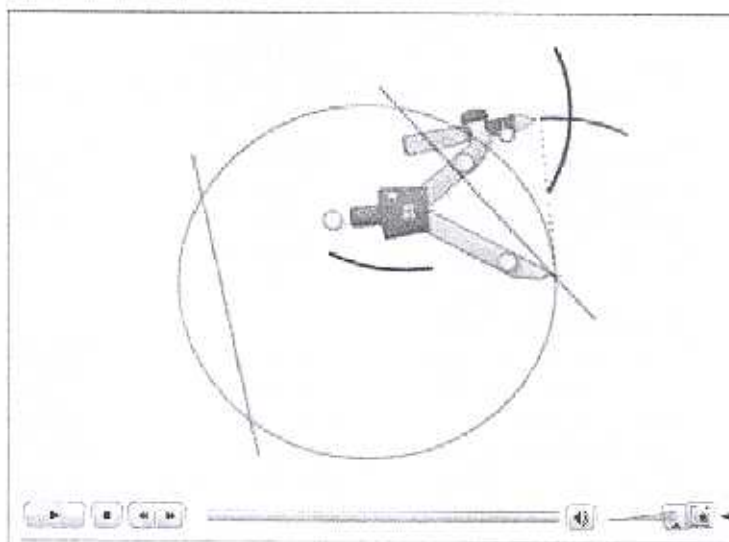


Educators can also differentiate by color-coding interactive whiteboard questions by level of difficulty or displaying different streams of assignments on the interactive whiteboard for students to work on independently.

Differentiate by recording your process

Some interactive whiteboards have a recorder tool that allows teachers to record the steps they take on the interactive whiteboard and play them back to students at a later time. For example, an instructor can turn on the recorder feature, walk a class through the steps required to solve a math problem by doing an example on the interactive whiteboard, stop the recorder feature and set it to play it back repeatedly for the class to reference while they work.

Use of the recorder feature allows strong students to get on with their work without the tedium of repeated whole-class instruction, while supporting the middle and low ability students who may need to reference the instruction many times as they work. If a microphone is attached to your computer when the process is recorded, sound will be included with the file. A narrated recording of a process is useful for posting on a class website or sending to students who were away.



Enable active student participation

One of the biggest benefits of teaching on an interactive whiteboard is the ability for students and teachers to interact with objects and activities on the page. Interaction with the whiteboard, apart from just manipulating the screen, allows for more active learning to take place. This means that instead of treating students as receptacles for knowledge and trying to *fill them up* with information, students are given the power to construct their own meaning out of the content you provide. Many educators believe that information learned through active processes are more easily retained, and are retained over a longer period, than information that is passed on passively to the student. Enabling active student participation with lessons also gives the teacher an opportunity to assess student learning.

The following section offers suggestions about how to design interactive whiteboard lessons that encourage student participation.

Create hide-and-reveal activities

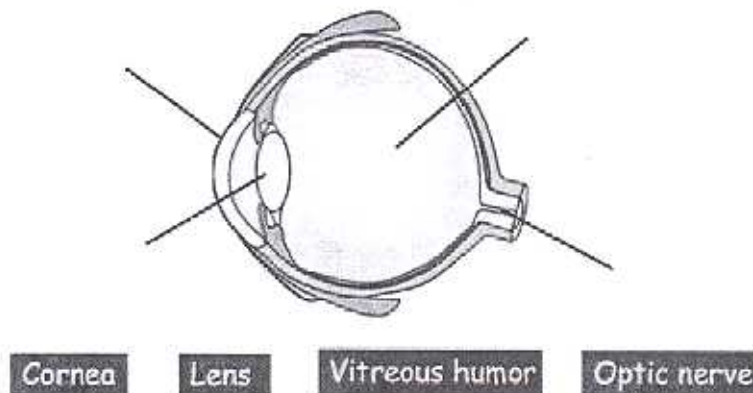
One of the quickest ways to add interactivity to a lesson is to hide the answer to a question behind an object on your interactive whiteboard page. Instead of giving students a piece of information, write a question for students to answer and hide that answer under a box or an object that can be moved out of the way to reveal the answer. Alternatively, you could use the Screen Shade tool to accomplish a hide-and-reveal activity.

What is the largest land mammal?

Move the box
to reveal the
answer

Create drag and drop activities

Drag and drop activities are an excellent way to determine if your class has understood the lesson. Drag and drop activities work well with labeling exercises, sorting exercises, ordering, counting and matching. This is one area where interactive whiteboard technology really shines. It is extremely easy to create a drag and drop activity on an interactive whiteboard, compared to creating a sorting exercise with paper. It is much easier for a whole class of students to see a demonstration when this type of activity is done on an interactive whiteboard rather than with real objects, particularly small objects. Drag and drop activities keep your class active and engage more parts of the brain because of the physical movement involved.



Labeling a diagram is an excellent drag and drop activity.

It is a good idea to copy your drag and drop lesson activities onto another page at the end of your lesson to create an answer key. This page will help future users of the file find the correct answers.

Drag and drop activities can also be used for text-based lessons. For example, you might drag events to specific dates on a timeline or define a series of words.

Word	Definition
	A naming word
	A doing word
Adverb	This word can modify a verb or an adjective
	This word modifies a noun or a pronoun
Adjective	
Noun	
Verb	

Use drag and drop activities to enliven text-based lessons.

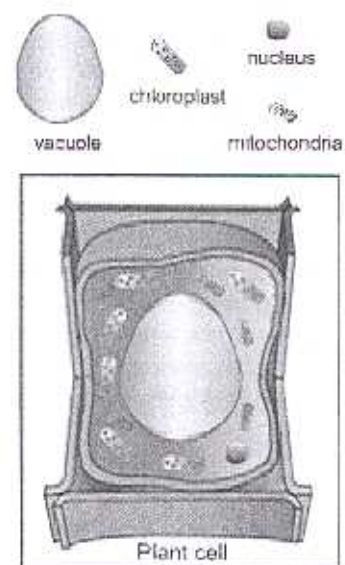
If your interactive whiteboard software offers an infinite cloning feature, this can be very advantageous when creating drag and drop activities. The Infinite Cloner feature allows you to create a pool of choices that students can drag from as often as needed without diluting the pool of available options.

Incorporate Flash activities

Flash is a software application that is used to create animated images and interactive graphics. All interactive whiteboards will allow users to view websites where students can access and manipulate Flash objects, and some interactive whiteboard providers supply educational Flash content that can be used directly within a lesson. Interactive Flash activities and similarly dynamic graphics help achieve learning objectives and bring the lesson to life. Finding a Flash object that enhances your lesson, or creating your own if you have Flash software and the necessary skills, is a way to incorporate more complex interactivity into lessons that demand it.

Get and record students' opinion

Engage students' opinion by taking votes with an interactive response system, which is sold as an interactive whiteboard add-on by some interactive whiteboard providers, or a simple tally on the interactive whiteboard. Opinion polls stimulate discussion and allow students to participate actively in a lesson. Saving your software file with the voting results recorded allows you to bring up these results later on in the unit to see whether opinions on the issue have changed with further study.



Cater to multiple learning styles

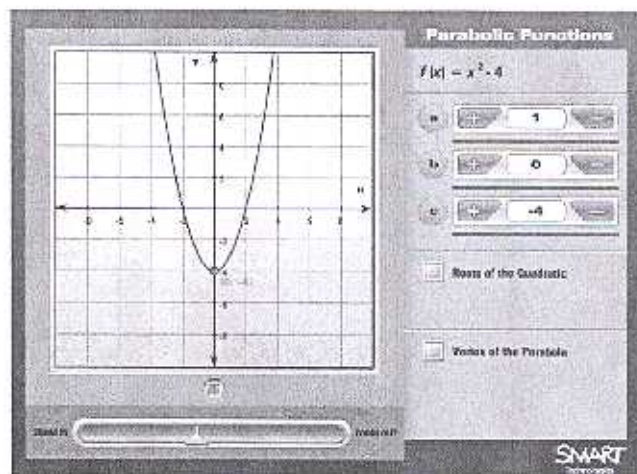
The term multiple learning styles refers to the theory that individuals are naturally more able to learn material that is presented in a particular way. Educators will often refer to visual learners, auditory learners and kinesthetic, or body movement, learners.

The best lesson design is one that considers and targets a number of different learning preferences. Interactive whiteboards have a unique advantage over a screen and digital projector in that lessons can be manipulated physically such as in a sorting exercise. Appeal to as many learning styles as you can within a single page or activity, without sacrificing clarity, and vary the approach from page to page so that there's something to address every learning style within a single lesson.

This section outlines some of the ways that interactive whiteboard lessons can help you cater to multiple learning styles.

Incorporate interactive and multimedia content

Video and animated Flash-created content can easily be incorporated into your interactive whiteboard lesson. Video content can be used to give students an impression of a historical event or to demonstrate how something moves, such as microscopic cells. Flash-created content can be used as an alternative to video for something that cannot be videotaped, such as movement of a line on a graph, or when you want students to interact directly with a learning object and receive instant feedback. Many students learn better from seeing something in action, rather than just hearing or reading about it.



Interactive Flash content can be especially valuable for the substantial proportion of learners who need to understand difficult concepts – mathematical concepts, for example – in context rather than as an abstraction. Teachers can use the Flash learning objects made available by their interactive whiteboard provider or link to the many education websites that provide these resources.

Incorporate sound

Some collaborative learning software for the interactive whiteboard makes it easy to engage auditory learners by using sound within a lesson activity. It is also a good way to give students insight into a speaker's personality – listening to a historical speech, for example, rather than reading it, can be more engaging for students. Another way to use sound is to give immediate feedback to students when they interact with specific objects in the interactive whiteboard lesson. Try recording applause to use for correct answers or the words *try again* for incorrect answers.

Some interactive whiteboard providers make sound files available to users as part of their educational resource offering. You can also record sounds or text using a digital recorder or download sound files from the Internet.

Make it active

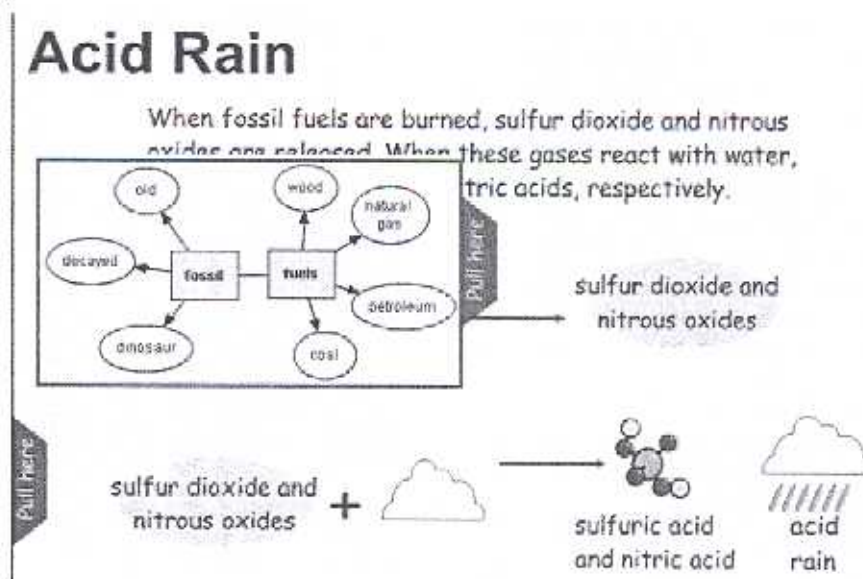
Inviting students up to the interactive whiteboard to move or sort objects engages kinesthetic learners. Seeing objects being moved around the interactive whiteboard engages visual and spatial learners. Increased interaction between students and teachers engages verbal learners. All students learn best from active rather than passive processing of information. In short, keeping lessons active and interactive will appeal to more students' needs than lecture-style content delivery.

Consider special needs

Inclusive education practices have made today's classrooms very diverse. Most teachers need to consider the special needs in their classroom such as those of English language learners (ELL), students with learning or behavioral disabilities and even those with severe disabilities. This section outlines some ideas to help you consider the special needs in your classroom when teaching on an interactive whiteboard.

Access key lesson vocabulary when you need it

An effective instructional strategy for English language learners is to include key vocabulary for the lesson. An effective way to handle key vocabulary on an interactive whiteboard is to use a hide-and-reveal technique or pull-tab. This approach allows the instructor to address key vocabulary at the beginning of each presentation page or activity and then store it away to better access the main page content. This type of interactivity also gives the teacher the flexibility to bring that information out only if, or when, needed. The text on these key vocabulary tabs is an independent object – that's why you can move it around. It is an easy task to collect all of the key vocabulary in your lesson onto a single page to print. ELL students or struggling readers can use this advance vocabulary list to familiarize themselves with key words before the full-class lesson.



Use of pull tabs to store and access vocabulary information for key lesson words

Students with severe disabilities also benefit from interactive whiteboard use

Students with severe cognitive and physical disabilities can derive a great deal of benefit from interactive whiteboard use. These students can learn action-and-response and physical coordination. Use interactive whiteboard software to customize the activity to what the particular student enjoys. For some students, linking a sound file that will play when a student interacts with an object is very effective. Other students may prefer to be rewarded with images of faces or animals, animated objects, or changes in color. When designing your interactive whiteboard activity, keep in mind that some students may be sensitive to glare, so consider using a pastel shade such as beige or light blue for your page background. Some students with severe disabilities also suffer from visual impairment, so consider keeping objects and any text quite large.

Interactive whiteboards that respond to touch pressure have an advantage over those that operate with an electromagnetic pen when they are being used to teach students with severe disabilities. Those students who find it difficult to grip a pen or stylus can use other implements to write or to navigate a touch-sensitive board. These students might find it easier to grip a tennis ball, drumstick or manipulate the interactive whiteboard with their hands.